



Service Manual

**MODEL: GWC09MA-A3DNA3A
GWH09MA-A3DNA3A
GWC12MB-A3DNA3A
GWH12MB-A3DNA3A
GWC12MB-D3DNA3A
GWH12MB-D3DNA3A
(Refrigerant R410A)**

GREE ELECTRIC APPLIANCES INC.OF ZHUHAI

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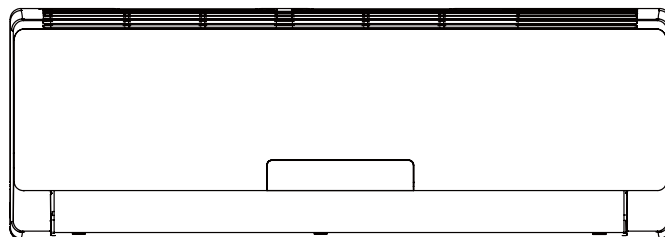
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Summary and Features

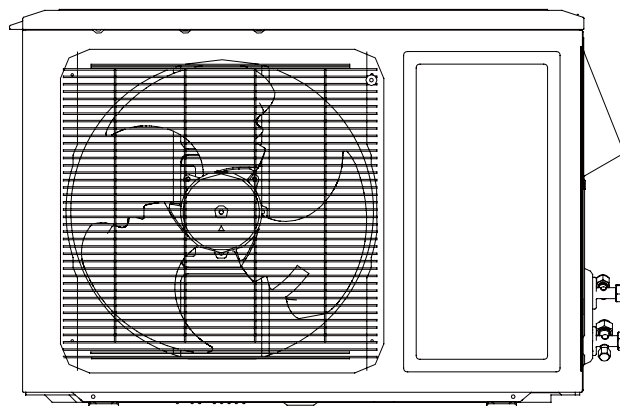
Indoor Unit

GWC09MA-A3DNA3A/I
GWH09MA-A3DNA3A/I
GWC12MB-A3DNA3A/I
GWH12MB-A3DNA3A/I
GWC12MB-D3DNA3A/I
GWH12MB-D3DNA3A/I



Outdoor Unit

GWC09MA-A3DNA1A/O
GWH09MA-A3DNA1A/O
GWC12MB-A3DNA1A/O
GWH12MB-A3DNA1A/O
GWC12MB-D3DNA1A/O
GWH12MB-D3DNA1A/O



Remote Controller

YB1FAF



1.Safety Precautions

Installing, starting up, and servicing air conditioner can be hazardous due to system pressure, electrical components, and equipment location, etc.


Only trained, qualified installers and service personnel are allowed to install, start-up, and service this equipment.


Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.

When handling the equipment, observe precautions in the manual and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing.

Read the instructions thoroughly and follow all warnings or cautions in literature and attached to the unit. Consult local building codes and current editions of national as well as local electrical codes.

Recognize the following safety information:

 **Warning** Incorrect handling could result in personal injury or death.

 **Caution** Incorrect handling may result in minor injury, or damage to product or property.

 **Warning**

All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.

- Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.
- Never supply power to the unit unless all wiring and tubing are completed, reconnected and checked.
- This system adopts highly dangerous electrical voltage. Incorrect connection or inadequate grounding can cause personal injury or death. Stick to the wiring diagram and all the instructions when wiring.
- Have the unit adequately grounded in accordance with local electrical codes.
- Have all wiring connected tightly. Loose connection may lead to overheating and a possible fire hazard.

All installation or repair work shall be performed by your dealer or a specialized subcontractor as there is the risk of fire, electric shock, explosion or injury.

- Make sure the outdoor unit is installed on a stable, level surface with no accumulation of snow, leaves, or trash beside.
- Make sure the ceiling/wall is strong enough to bear the weight of the unit.
- Make sure the noise of the outdoor unit does not disturb neighbors.
- Follow all the installation instructions to minimize the risk of damage from earthquakes, typhoons or strong winds.
- Avoid contact between refrigerant and fire as it generates poisonous gas.
- Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture and other hazards.
- Make sure no refrigerant gas is leaking out when installation is completed.
- Should there be refrigerant leakage, the density of refrigerant in the air shall in no way exceed its limited value, or it may lead to explosion.
- Keep your fingers and clothing away from any moving parts.
- Clear the site after installation. Make sure no foreign objects are left in the unit.
- Always ensure effective grounding for the unit.

 **Caution**

- Never install the unit in a place where a combustible gas might leak, or it may lead to fire or explosion.
- Make a proper provision against noise when the unit is installed at a telecommunication center or hospital.
- Provide an electric leak breaker when it is installed in a watery place.
- Never wash the unit with water.
- Handle unit transportation with care. The unit should not be carried by only one person if it is more than 20kg.
- Never touch the heat exchanger fins with bare hands.
- Never touch the compressor or refrigerant piping without wearing glove.
- Do not have the unit operate without air filter.
- Should any emergency occur, stop the unit and disconnect the power immediately.
- Properly insulate any tubing running inside the room to prevent the water from damaging the wall.

2. Specifications

2.1 Unit Specifications

Model				GWC09MA-A3DNA3A		GWH09MA-A3DNA3A	
Product Code				CB17100090		CB17100100	
Function				COOLING		COOLING	HEATING
Rated Voltage				115V~		115V~	
Frequency (Inverter different Compressor speed)	High	Hz	70		70	63	
	Standard	Hz	41		41	44	
	Low	Hz	15		15	15	
Total Capacity (Inverter different Compressor speed)	High	W/Btu/h	3100/10600		3100/10600	3250/11100	
	Standard	W/Btu/h	2650/9000		2650/9000	2820/9500	
	Low	W/Btu/h	1300/4435		1300/4435	930/3200	
Power Input (Inverter different Compressor speed)	High	W	1050		1050	1100	
	Standard	W	634		634	700	
	Low	W	180		180	220	
Rated Input	High	W	1050		1050	1100	
	Standard	W	634		634	700	
Rated Current	High	A	16.8		16.8	17.0	
	Standard	A	7.0		7.0	7.5	
Air Flow Volume		CFM	370		370		
Dehumidifying Volume		l/h	0.8		0.8		
EER / C.O.P			14.2		14.2		
SEER/HSPF			22		22/9.8		
Indoor unit			GWC09MA-A3DNA3A/I		GWH09MA-A3DNA3A/I		
Fan Motor	Speed	SH	r/min	1260		1260	1320
		H	r/min	1050		1050	1200
		M	r/min	920		920	1100
		L	r/min	730		730	950
	Output		W	20		20	
	Capacitor		μF	4.0		4.0	
	RLA		A	0.38		0.38	
Fan	Type		Cross flow fan		Cross flow fan		
	Diameter-Length		inch	Φ3.6X25.4		Φ3.6X25.4	
Evaporator			Aluminum fin-copper tube		Aluminum fin-copper tube		
	Pipe Diameter		inch	Φ0.3		Φ0.3	
	Row-Fin Gap		inch	2-0.06		2-0.06	
	Coil length (l)Xheight (H) Xcoil width (L)		inch	25.4X10.5X1		25.4X10.5X1	
Swing Motor	Model		MP24AA		MP24AA		
	Output		W	2.4		2.4	
Fuse (A)		A	3.15		3.15		
Sound Pressure Level	H	dB (A)	34		34		
	M	dB (A)	30		30		
	L	dB (A)	26		26		
Sound Power Level	H	dB (A)	44		44		
	M	dB (A)	40		40		
	L	dB (A)	36		36		
Dimension (WXHXD)		inch	33X11X7		33X11X7		
Dimension of Package (WXHXD)		inch	36X14X10		36X14X10		
Net Weight /Gross Weight		ib.	29/38		29/38		

Outdoor Unit			GWC09MA-A3DNA1A/O		GWH09MA-A3DNA1A/O	
Compressor	Manufacturer/trademark		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD	
	Model		C-6RZ110H1A		C-6RZ110H1A	
	Type		Twin rotary		Twin rotary	
	L.R.A. (A)	A	33		33	
	RLA(A)	A	4.59/2.81		4.59/2.81	
	Power Input(W)	W	775/735		775/735	
	Overload Protector		Int11I-3979		Int11I-3979	
Throttling Method			Electronic Expansion Valve throttling		Electronic Expansion Valve throttling	
Starting Method			Transducer starting		Transducer starting	
Working Temp Range		°F	41~115		41~115	5~86
Heat Exchanger Coil	Coil		Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter	inch	Φ0.3		Φ0.3	
	Rows-Fin Gap	inch	2-0.06		2-0.06	
Coil length (l) X height (H) X coil width (L)		inch	31.5X19.5X0.5		31.5X19.5X0.5	
Fan Motor	Speed	rpm	900/650		900/650	900
	Output of Fan Motor	W	40		40	
	RLA	A	0.17		0.17	
	Capacitor	μF	/		/	
Air Flow Volume of Outdoor Unit		ft³/min	1118		1118	
Fan	Type		Axial fan		Axial fan	
	Diameter	inch	15.7		15.7	
Defrosting Method			/		Auto defrost	
Climate Type			T1		T1	
Isolation			I		I	
Moisture Protection			IP24		IP24	
Permissible Excessive Operating Pressure for the Discharge Side		Mpa	3.8		3.8	
Permissible Excessive Operating Pressure for the Suction Side		Mpa	1.2		1.2	
Sound Pressure Level		dB (A)	≤50		≤50	
Sound Power Level		dB (A)	≤63		≤63	
Dimension (WXHxD)		inch	33X21X12.6		33X21X12.6	
Dimension of Package (WXHxD)		inch	34.5X22.8X14.2		34.5X22.8X14.2	
Net Weight /Gross Weight		lb.	96/110		96/110	
Refrigerant	Name of refrigerant		R410A		R410A	
	Weight	oz.	42		42	
Connection Pipe	Length (m)	ft.	16		16	
	Gas additional charge	oz/ft	0.1613		0.2150	
	Liquid Pipe Diameter	inch	Φ1/4"		Φ1/4"	
	Gas Pipe Diameter	inch	Φ3/8"		Φ3/8"	
Max. Interunit Height Difference		ft.	33		33	
Max. Interunit Piping Length		ft.	66		66	

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Specifications

Model			GWC12MB-A3DNA3A		GWH12MB-A3DNA3A	
Product Code			CB17100110		CB17100120	
Function			COOLING		COOLING	HEATING
Rated Voltage			115V~		115V~	
Frequency (Inverter different Compressor speed)	High	Hz	80		80	75
	Standard	Hz	59		59	65
	Low	Hz	15		15	15
Total Capacity (Inverter different Compressor speed)	High	W/Btu/h	4100/14000		4100/14000	4200/14500
	Standard	W/Btu/h	3520/12000		3520/12000	3800/13000
	Low	W/Btu/h	1320/4500		1320/4500	950/3250
Power Input (Inverter different Compressor speed)	High	W	1450		1450	1500
	Standard	W	960		960	1200
	Low	W	120		120	220
Rated Input	High	W	1450		1450	1500
	Standard	W	960		960	1200
Rated Current	High	A	17.0		17.0	18.2
	Standard	A	11.0		11.0	12.5
Air Flow Volume	SH	ft ³ /min	300		300	
	H	ft ³ /min	277		277	
	M	ft ³ /min	253		253	
	L	ft ³ /min	218		218	
Dehumidifying Volume		l/h	1.4		1.4	
EER / C.O.P			12.5		12.5	
SEER/HSPF			20		20/9.6	
Indoor unit			GWC12MB-A3DNA3A/I		GWH12MB-A3DNA3A/I	
Fan Motor	Speed	SH	r/min	1260	1260	1280
		H	r/min	1070	1070	1050
		M	r/min	900	900	980
		L	r/min	730	730	920
	Output		W	20	20	
	Capacitor		μF	4.0	4.0	
	RLA		A	0.38	0.38	
Fan	Type		Cross flow fan		Cross flow fan	
	Diameter-Length		inch	Φ3.6X25.4	Φ3.6X25.4	
Evaporator			Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter		inch	Φ0.3	Φ0.3	
	Row-Fin Gap		inch	2-0.06	2-0.06	
	Coil length (l)Xheight (H)Xcoil width (L)		inch	25.4X10.5X1	25.4X10.5X1	
Swing Motor	Model		MP24AA		MP24AA	
	Output		W	2.4	2.4	
Fuse (A)		A	3.15		3.15	
Sound Pressure Level	H	dB (A)	36		36	
	M	dB (A)	32		32	
	L	dB (A)	26		26	
Sound Power Level	H	dB (A)	46		46	
	M	dB (A)	42		42	
	L	dB (A)	36		36	
Dimension (WXHXD)		inch	33X11X7		33X11X7	
Dimension of Package (WXHXD)		inch	36X14X10		36X14X10	
Net Weight /Gross Weight		lb.	29/38		29/38	

Outdoor Unit			GWC12MB-A3DNA1A /O		GWH12MB-A3DNA1A /O	
Compressor	Manufacturer/trademark		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD	
	Model		C-6RZ110H1A		C-6RZ110H1A	
	Type		Twin rotary		Twin rotary	
	L.R.A. (A)	A	33		33	
	RLA(A)	A	4.59/2.81		4.59/2.81	
	Power Input(W)	W	775/735		775/735	
Overload Protector			Int11I-3979		Int11I-3979	
Throttling Method			Electronic Expansion Valve throttling		Electronic Expansion Valve throttling	
Starting Method			Transducer starting		Transducer starting	
Working Temp Range		°F	41~115		41~115	5~86
Heat Exchanger Coil	Coil		Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter	inch	Φ0.4		Φ0.4	
	Rows-Fin Gap	inch	2-0.06		2-0.06	
Coil length (l) x height (H) x coil width (L)		inch	30.2X20X0.9		30.2X20X0.9	
Fan Motor	Speed	rpm	900/680		900/680	900
	Output of Fan Motor	W	40		40	
	RLA	A	0.17		0.17	
	Capacitor	μF	/		/	
Air Flow Volume of Outdoor Unit		ft ³ /min	1118		1118	
Fan	Type		Axial fan		Axial fan	
	Diameter	inch	15.7		15.7	
Defrosting Method			/		Auto defrost	
Climate Type			T1		T1	
Isolation			I		I	
Moisture Protection			IP24		IP24	
Permissible Excessive Operating Pressure for the Discharge Side		Mpa	3.8		3.8	
Permissible Excessive Operating Pressure for the Suction Side		Mpa	1.2		1.2	
Sound Pressure Level		dB (A)	≤53		≤53	
Sound Power Level		dB (A)	≤65		≤65	
Dimension (WXHxD)		inch	33X21X12.6		33X21X12.6	
Dimension of Package (WXHxD)		inch	34.5X22.8X14.2		34.5X22.8X14.2	
Net Weight /Gross Weight		lb.	107/118		107/118	
Refrigerant	Name of refrigerant		R410A		R410A	
	Weight	oz.	45.5		45.5	
Connection Pipe	Length (m)	ft.	16		16	
	Gas additional charge	oz/ft	0.1613		0.1613	
	Liquid Pipe Diameter	inch	Φ1/4"		Φ1/4"	
	Gas Pipe Diameter	inch	Φ3/8"		Φ3/8"	
Max. Interunit Height Difference		ft.	33		33	
Max. Interunit Piping Length		ft.	66		66	

The above data is subject to change without notice. Please refer to the nameplate of the unit.

Specifications

Model				GWC12MB-D3DNA3A		GWH12MB-D3DNA3A	
Product Code				CB17100150		CB17100160	
Function				COOLING		COOLING	HEATING
Rated Voltage				208-230V~		208-230V~	
Frequency (Inverter different Compressor speed)	High	Hz	80		80	75	
	Standard	Hz	59		59	65	
	Low	Hz	15		15	15	
Total Capacity (Inverter different Compressor speed)	High	W/Btu/h	4100/14000		4100/14000	4200/14500	
	Standard	W/Btu/h	3520/12000		3520/12000	3800/13000	
	Low	W/Btu/h	1320/4500		1320/4500	950/3250	
Power Input (Inverter different Compressor speed)	High	W	1450		1450	1500	
	Standard	W	960		960	1200	
	Low	W	120		120	220	
Rated Input	High	W	1450		1450	1500	
	Standard	W	960		960	1200	
Rated Current	High	A	7.0		7.0	7.5	
	Standard	A	5.2		5.2	6.0	
Air Flow Volume	SH	ft³/min	300		300		
	H	ft³/min	277		277		
	M	ft³/min	253		253		
	L	ft³/min	218		218		
Dehumidifying Volume		l/h	1.2		1.2		
EER / C.O.P			12.5		12.5		
SEER/HSPF			20		20/9.6		
Indoor unit				GWC12MB-D3DNA3A/I		GWH12MB-D3DNA3A/I	
Fan Motor	Speed	SH	r/min	1260		1260	1280
		H	r/min	1070		1070	1050
		M	r/min	900		900	980
		L	r/min	730		730	920
	Output		W	20		20	
	Capacitor		µF	1.0		1.0	
	RLA		A	0.20		0.20	
Fan	Type		Cross flow fan		Cross flow fan		
	Diameter-Length		inch	Φ3.6X25.4		Φ3.6X25.4	
Evaporator			Aluminum fin-copper tube		Aluminum fin-copper tube		
	Pipe Diameter		inch	Φ0.3		Φ0.3	
	Row-Fin Gap		inch	2-0.06		2-0.06	
	Coil length (l)×height (H)×coil width (L)		inch	25.4X10.5X1		25.4X10.5X1	
Swing Motor	Model		MP24AA		MP24AA		
	Output		W	2.4		2.4	
Fuse (A)		A	3.15		3.15		
Sound Pressure Level	H	dB (A)	36		36		
	M	dB (A)	32		32		
	L	dB (A)	26		26		
Sound Power Level	H	dB (A)	46		46		
	M	dB (A)	42		42		
	L	dB (A)	36		36		
Dimension (WXHXD)		inch	33X11X7		33X11X7		
Dimension of Package (WXHXD)		inch	36X14X10		36X14X10		
Net Weight /Gross Weight		lb.	29/38		29/38		

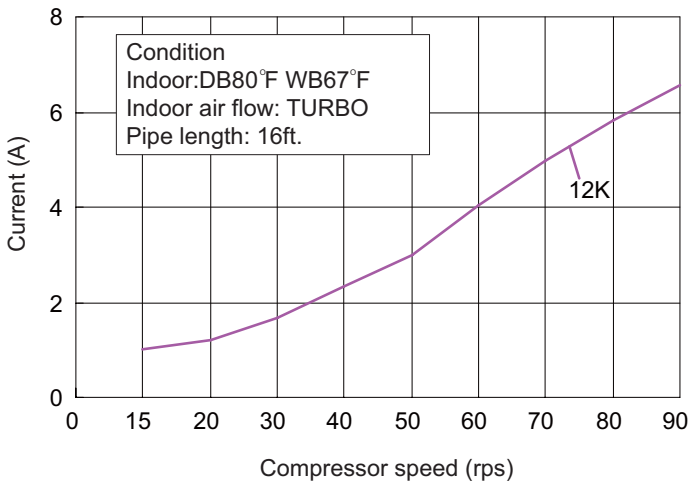
Outdoor Unit			GWC12MB-D3DNA1A /O		GWH12MB-D3DNA1A /O	
Compressor	Manufacturer/trademark		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD		CHINA RESOURCES SANYO(SHENYANG) COMPRESSOR CO.,LTD	
	Model		C-6RZ110H1A		C-6RZ110H1A	
	Type		Twin rotary		Twin rotary	
	L.R.A. (A)	A	33		33	
	RLA(A)	A	4.59/2.81		4.59/2.81	
	Power Input(W)	W	775/735		775/735	
Overload Protector			Int11I-3979		Int11I-3979	
Throttling Method			Electronic Expansion Valve throttling		Electronic Expansion Valve throttling	
Starting Method			Transducer starting		Transducer starting	
Working Temp Range		°F	41~115		41~115	5~86
Heat Exchanger Coil	Coil		Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter	inch	Φ0.4		Φ0.4	
	Rows-Fin Gap	inch	2-0.06		2-0.06	
Coil length (l) x height (H) x coil width (L)		inch	30.2X20X0.9		30.2X20X0.9	
Fan Motor	Speed	rpm	900/680		900/680	900
	Output of Fan Motor	W	40		40	
	RLA	A	0.17		0.17	
	Capacitor	μF	/		/	
Air Flow Volume of Outdoor Unit		CFM	1118		1118	
Fan	Type		Axial fan		Axial fan	
	Diameter	inch	15.7		15.7	
Defrosting Method			/		Auto defrost	
Climate Type			T1		T1	
Isolation			I		I	
Moisture Protection			IP24		IP24	
Permissible Excessive Operating Pressure for the Discharge Side		Mpa	3.8		3.8	
Permissible Excessive Operating Pressure for the Suction Side		Mpa	1.2		1.2	
Sound Pressure Level		dB (A)	≤53		≤53	
Sound Power Level		dB (A)	≤65		≤65	
Dimension (W×H×D)		inch	33X21X12.6		33X21X12.6	
Dimension of Package (W×H×D)		inch	34.5X22.8X14.2		34.5X22.8X14.2	
Net Weight /Gross Weight		lb.	107/118		107/118	
Refrigerant	Name of refrigerant		R410A		R410A	
	Weight	oz.	45.5		45.5	
Connection Pipe	Length (m)	ft.	16		16	
	Gas additional charge	oz/ft	0.1613		0.1613	
	Liquid Pipe Diameter	inch	Φ1/4"		Φ1/4"	
	Gas Pipe Diameter	inch	Φ3/8"		Φ3/8"	
Max. Interunit Height Difference		ft.	33		33	
Max. Interunit Piping Length		ft.	66		66	

The above data is subject to change without notice. Please refer to the nameplate of the unit.

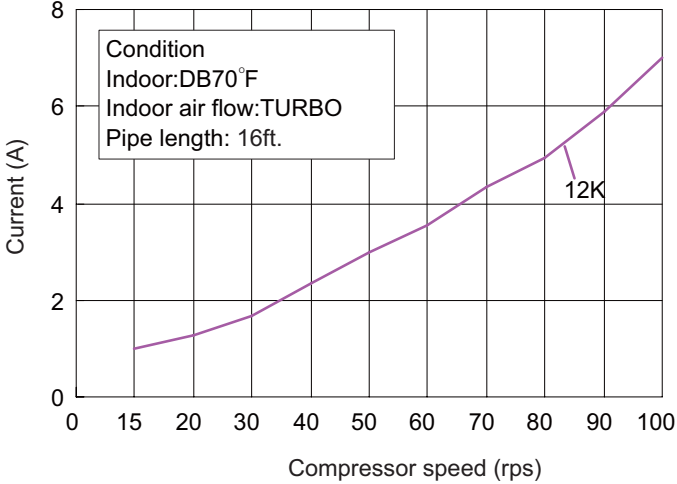
2.2 Operation Characteristic Curve

(1)Rated voltage:115V~

Cooling

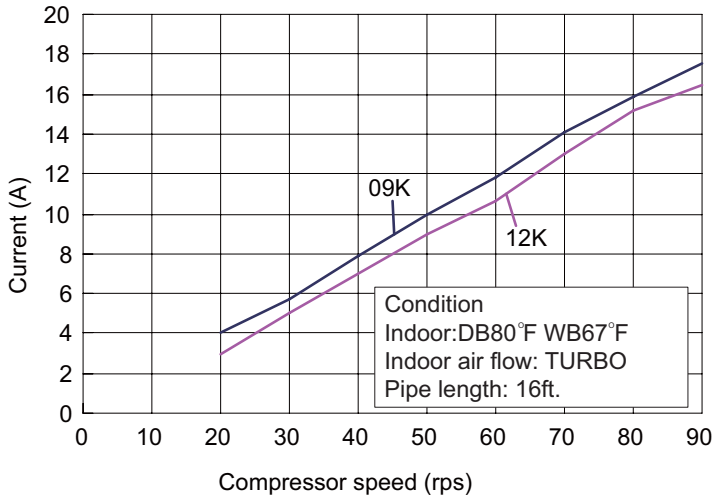


Heating

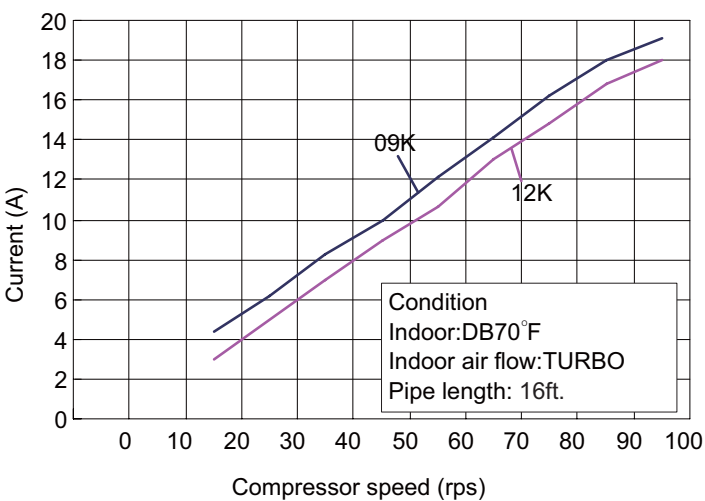


(2)Rated voltage:208-230V~

Cooling

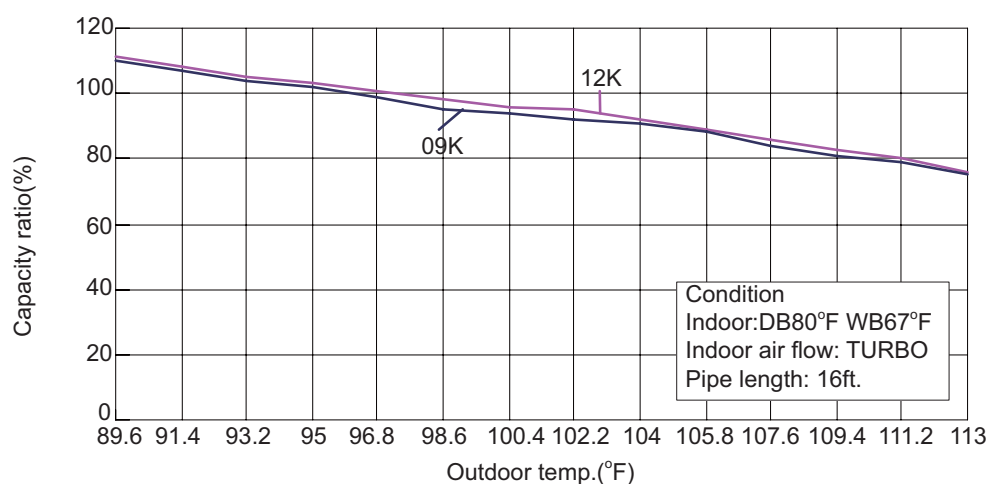


Heating

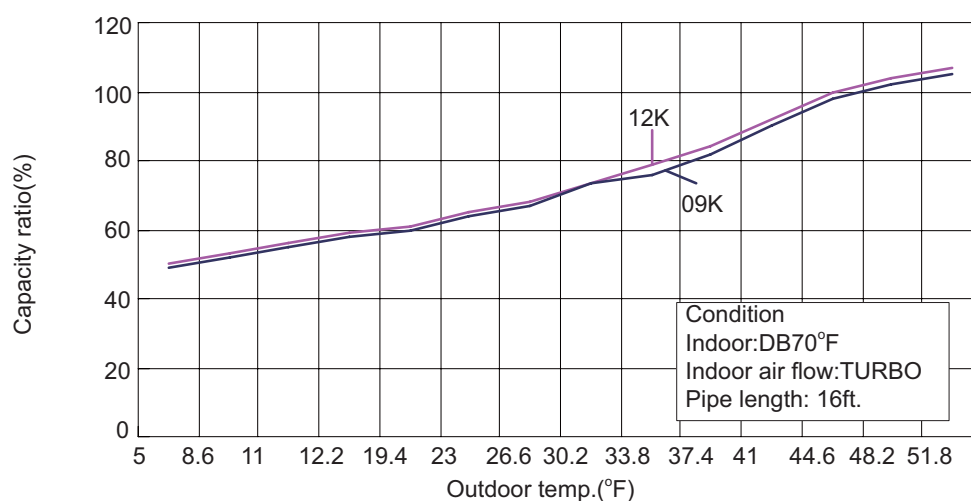


2.3 Capacity Variation Ratio According to Temperature

Cooling

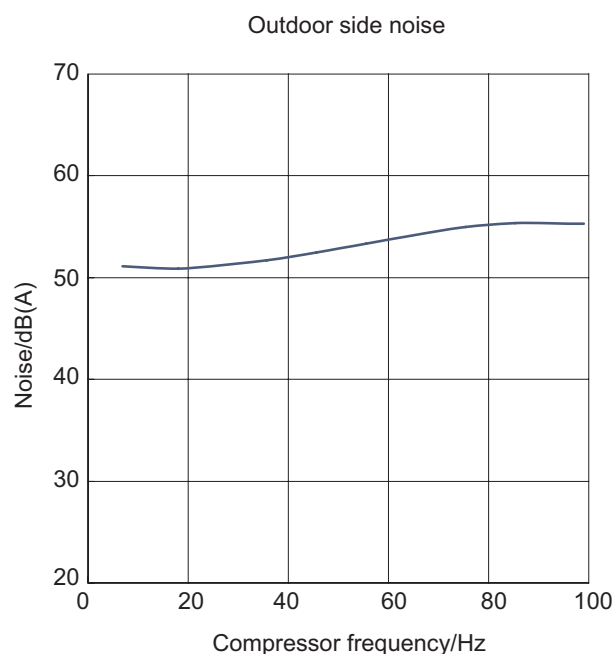
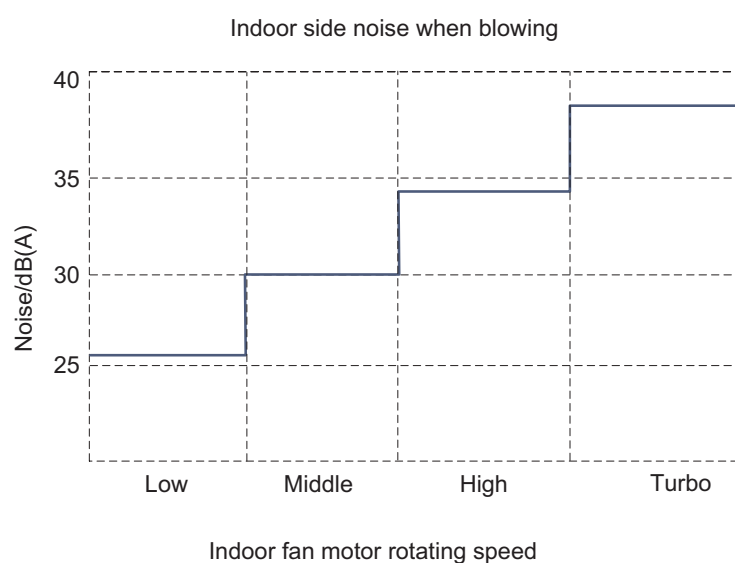


Heating

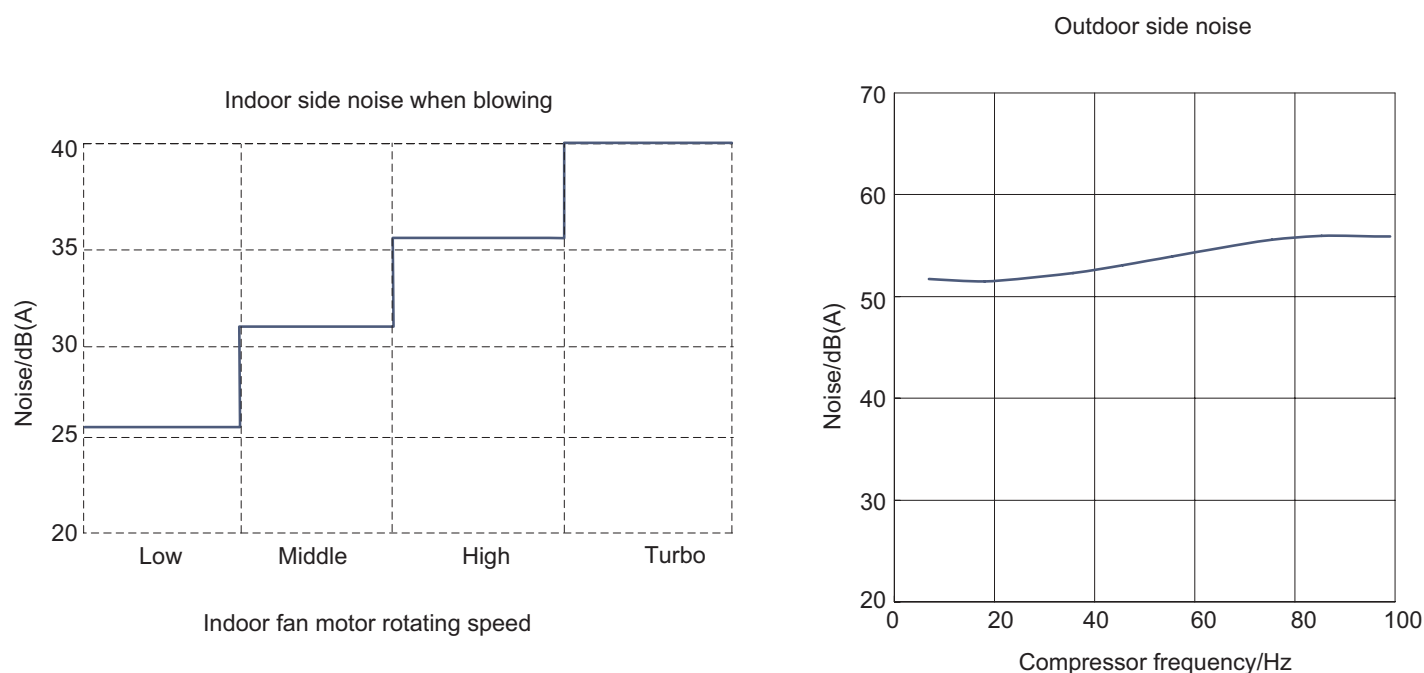


2.4 Noise Criteria Curve Tables for Both Models

09K Unit



12K Unit



2.5 Operation Data

Cooling

Temperature condition (°F)		Model name	Standard pressure P (MPa)	Heat exchanger pipe temp		Indoor fan mode	Outdoor fan mode	Compressor revolution (rps)
Indoor	Outdoor			T1 (°F)	T2 (°F)			
80/67	95/-	09K	0.8~1.1	53.6 to 57.2	105.8 to 109.4	TURBO	TURBO	41
		12K		57.2 to 53.6	109.4 to 113			59

Heating

Temperature condition (°F)		Model name	Standard pressure P (MPa)	Heat exchanger pipe temp		Indoor fan mode	Outdoor fan mode	Compressor revolution (rps)
Indoor	Outdoor			T1 (°F)	T2 (°F)			
70/60	47/43	09K	2.8~3.2	98.6 to 100.4	35.6 to 39.2	TURBO	TURBO	44
		12K		107.6 to 111.2	32 to 37.4			65

P: The air pipe pressure (gas valve side pressure) connect to indoor and outdoor unit

T1: Inlet and outlet pipe temperature of evaporator

T2: Inlet and outlet pipe temperature of condenser

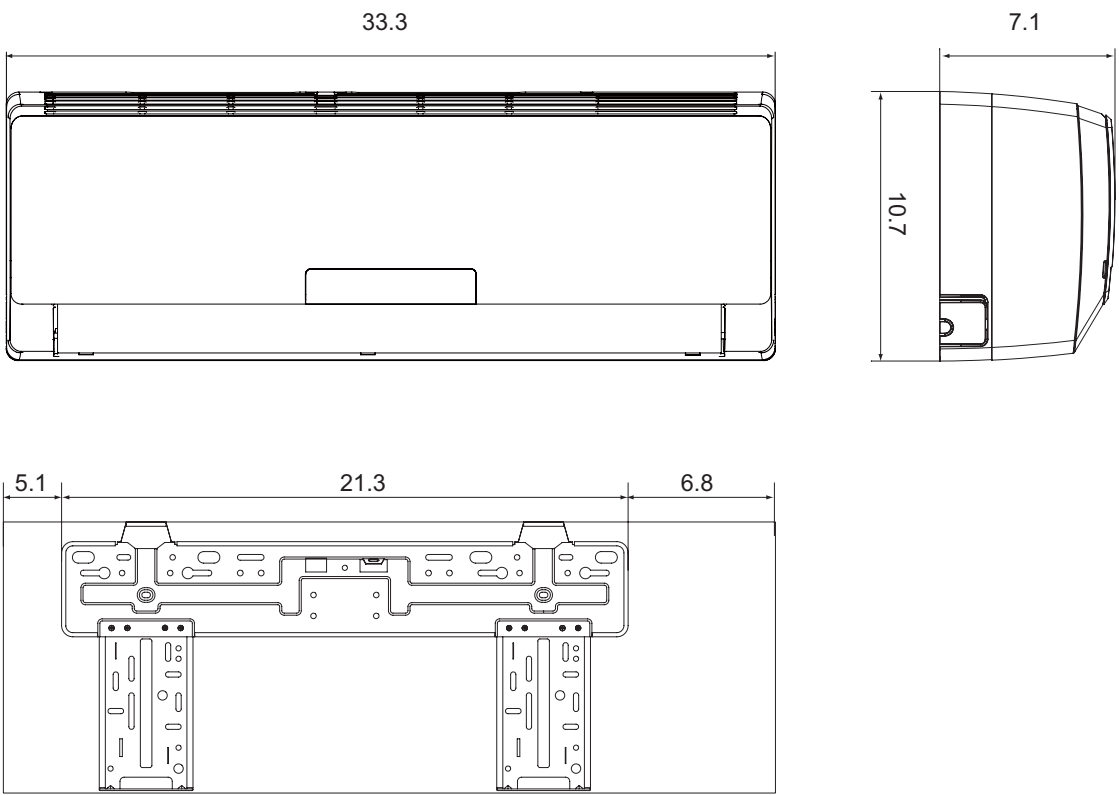
NOTES :

(1) Measure surface temperature of heat exchanger pipe around center of heat exchanger path U bent. (Thermistor thermometer)

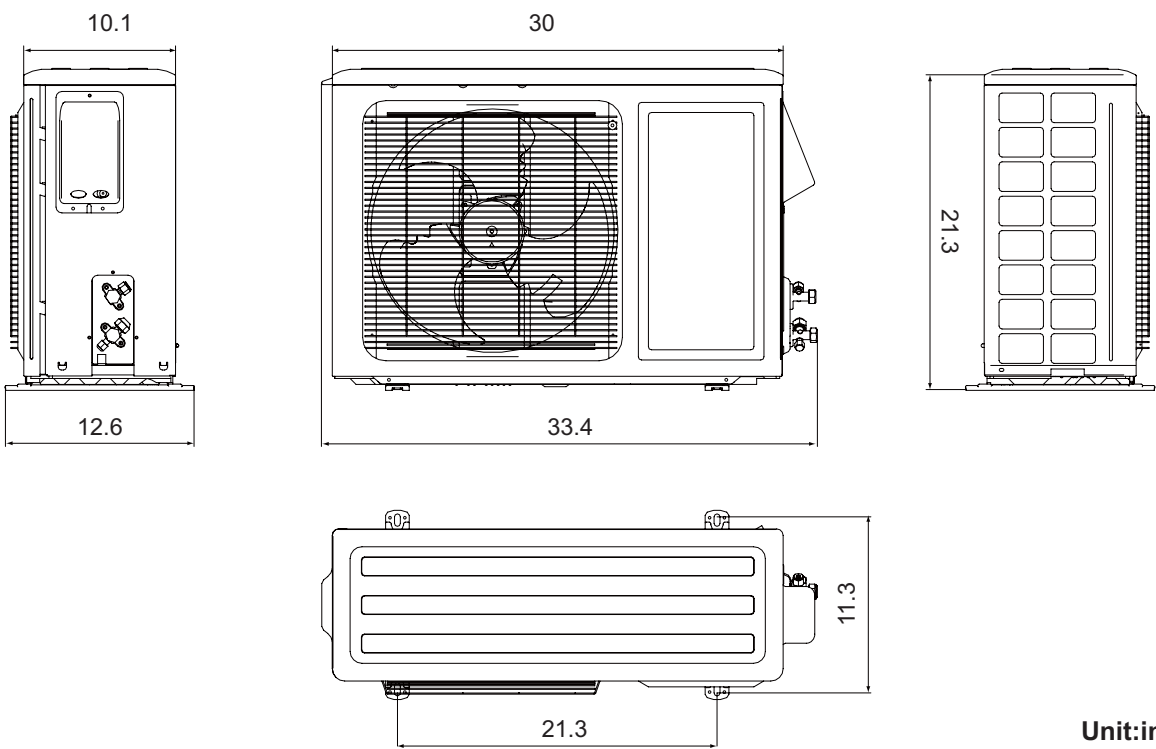
(2) Connecting piping condition : 25ft.

3. Construction Views

3.1 Indoor Unit



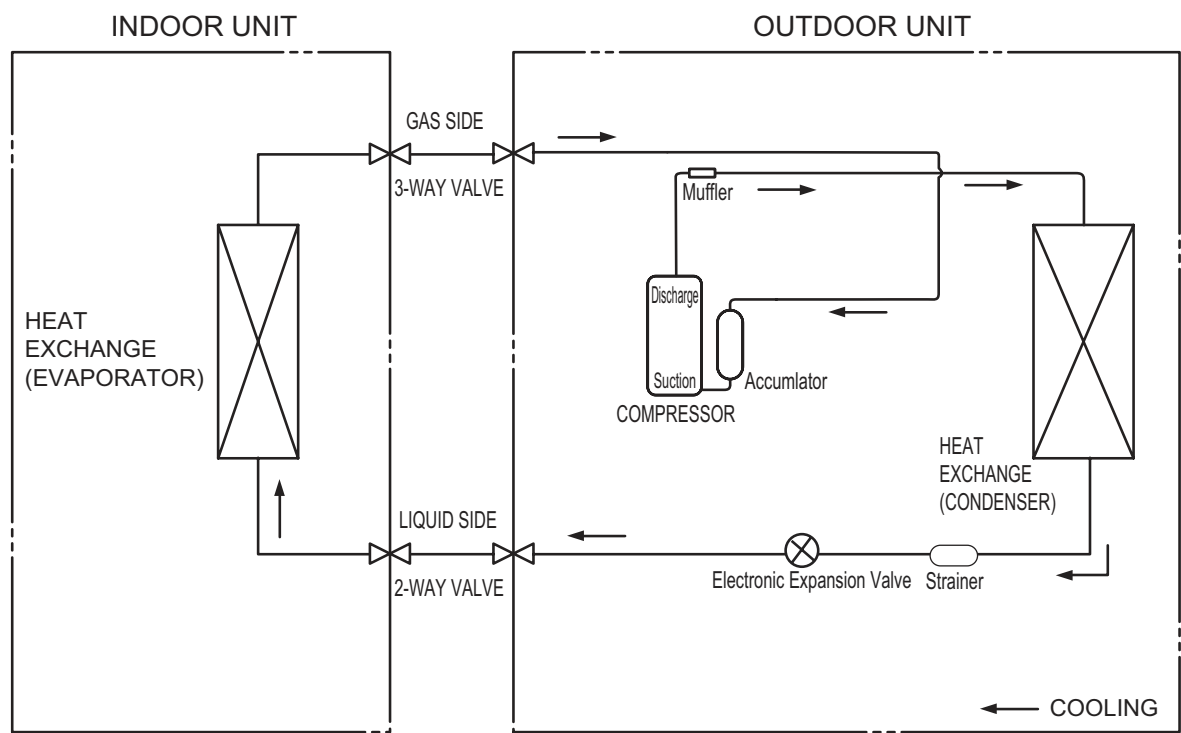
3.2 Outdoor Unit



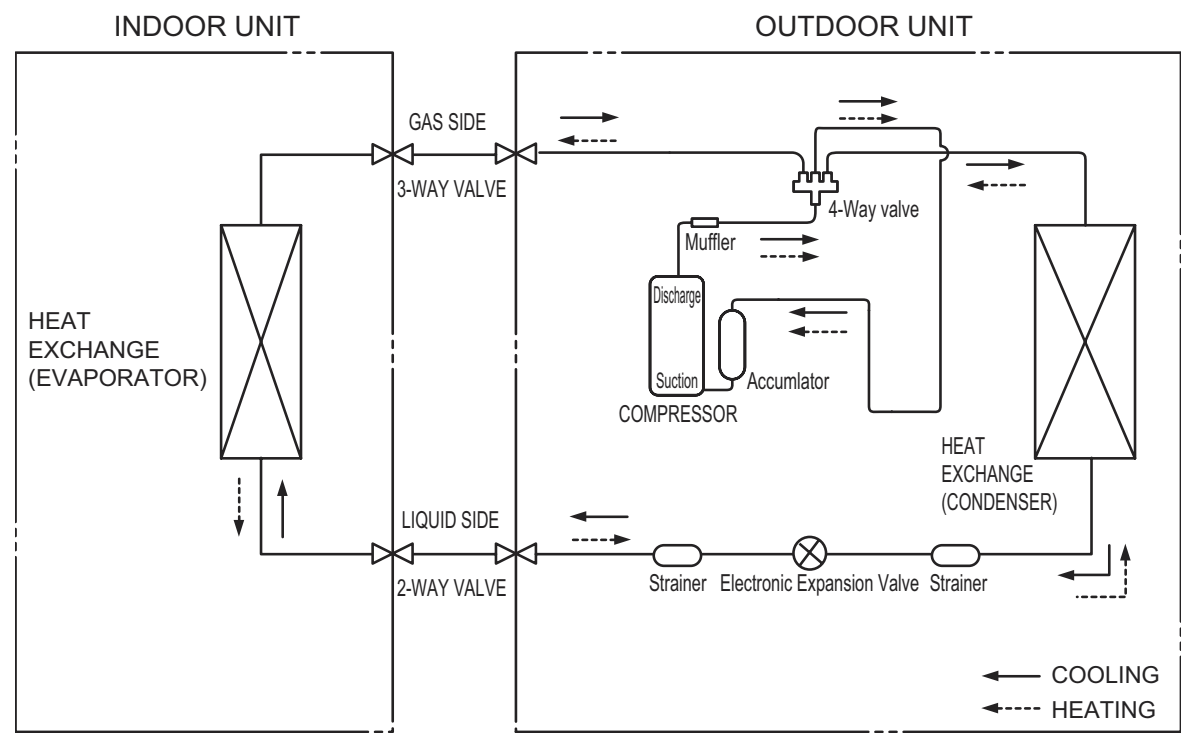
Unit:inch

4. Refrigerant System Diagram

(1)Cooling Only Models



(2)Cooling&Heating Models



Refrigerant pipe diameter
Liquid : 1/4" Gas : 3/8"

5. Schematic Diagram

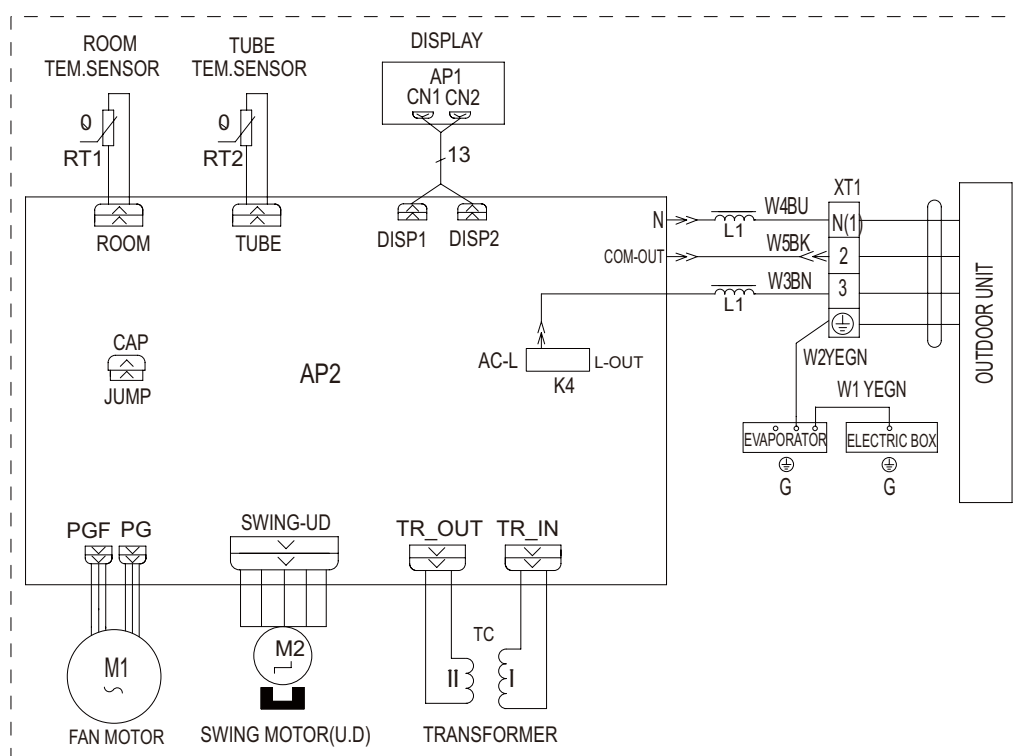
5.1 Electrical Data

Meaning of marks

Symbol	Color symbol	Symbol	Parts name
OG	ORANGE		PROTECTIVE EARTH
WH	WHITE	COMP	COMPRESSOR
YE	YELLOW	CT1,2	OVERLOAD
RD	RED	4V	4-WAY VALVE
YEGN	YELLOW GREEN	XT	TERMINAL BLOCK
BN	BROWN		
BU	BLUE		
BK	BLACK		

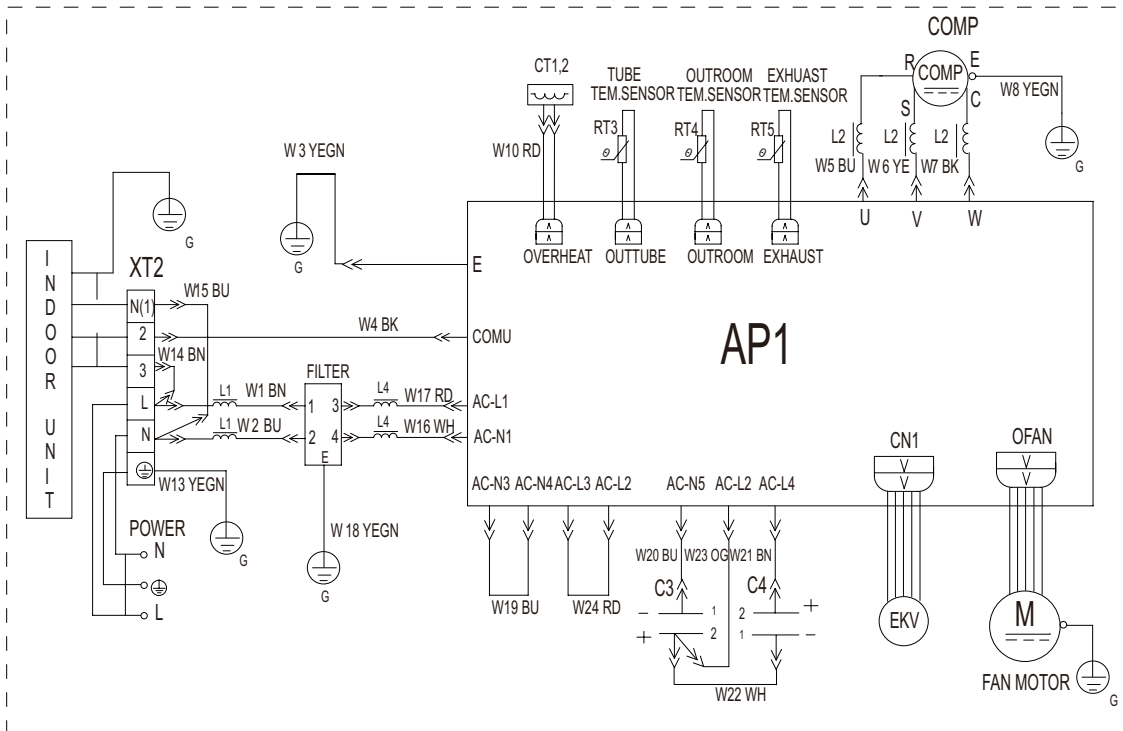
5.2 Electrical Wiring

●Indoor Unit

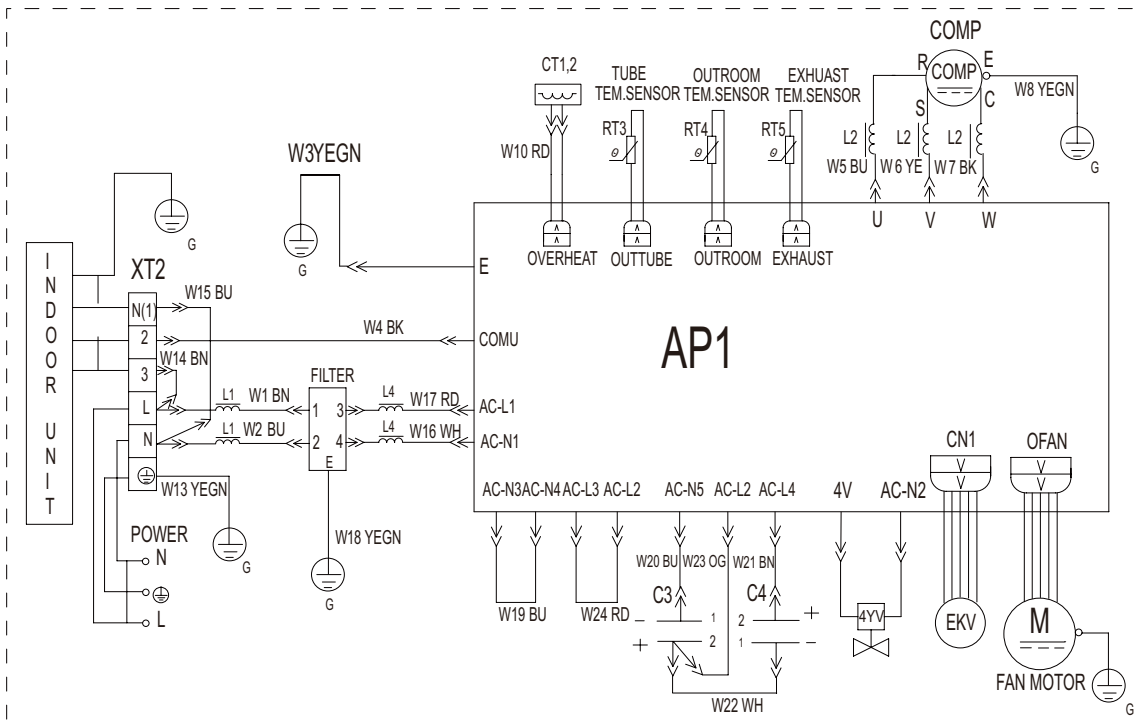


●Outdoor Unit

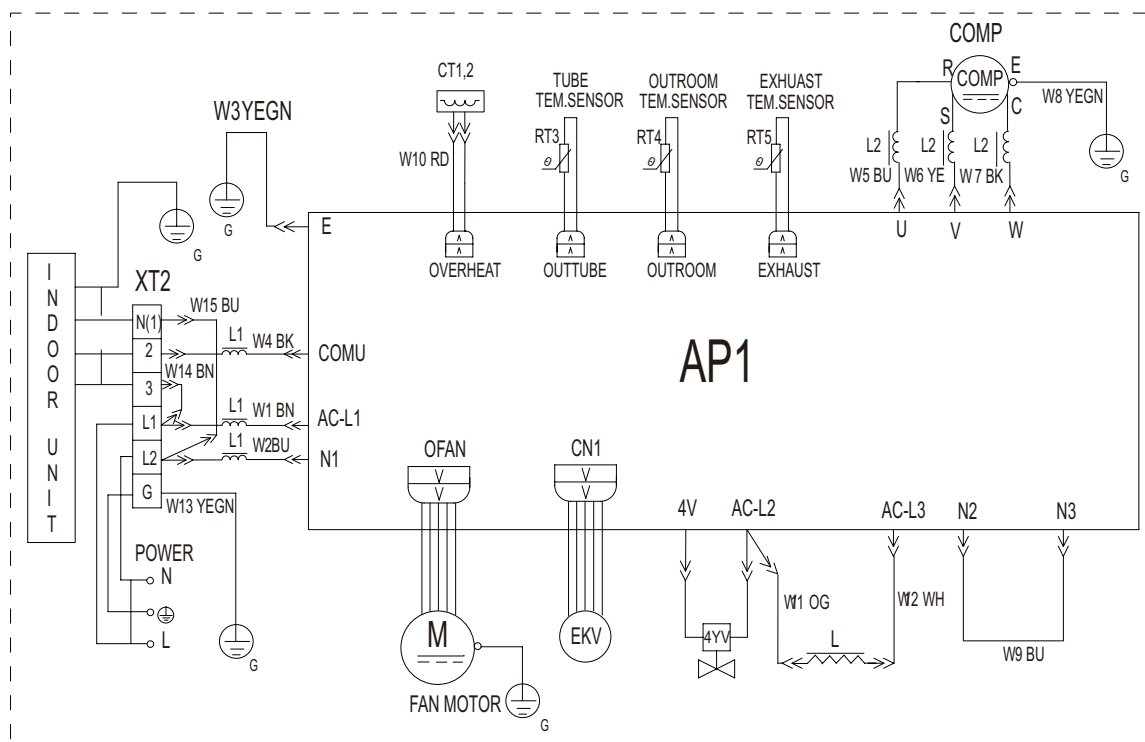
GWC09MA-A3DNA1A/O、GWC12MB-A3DNA1A/O



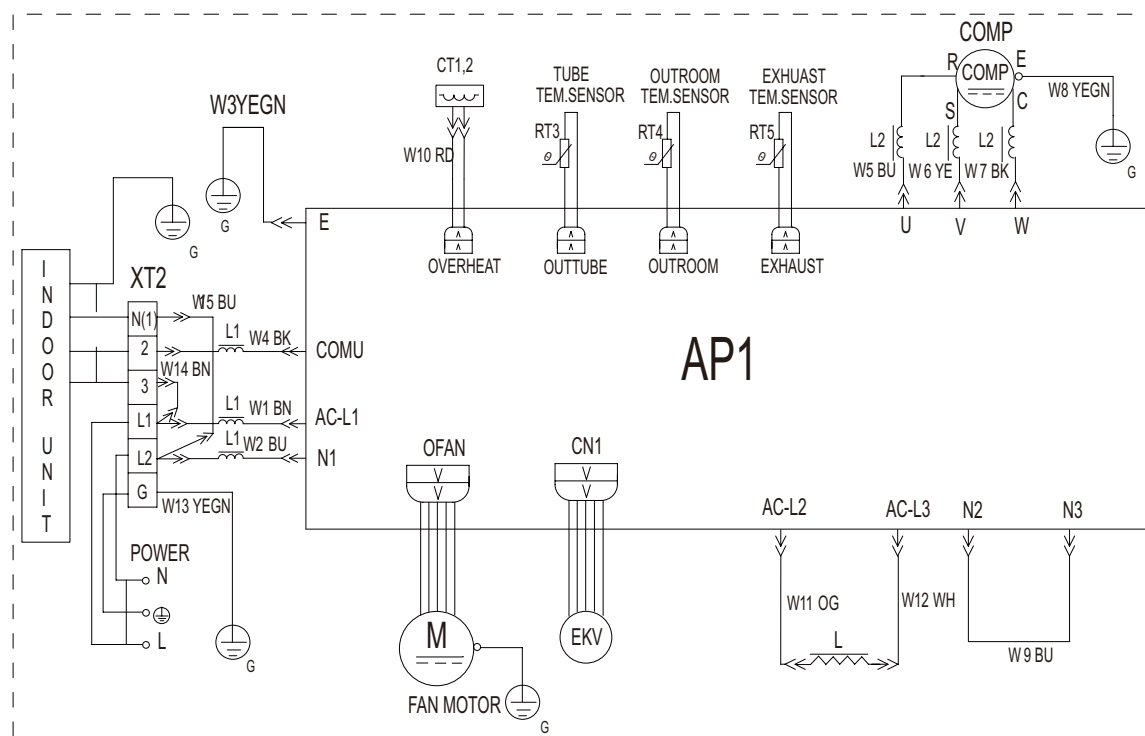
GWH09MA-A3DNA1A/O、GWH12MB-A3DNA1A/O



GWH12MB-D3DNA1A/O



GWC12MB-D3DNA1A/O

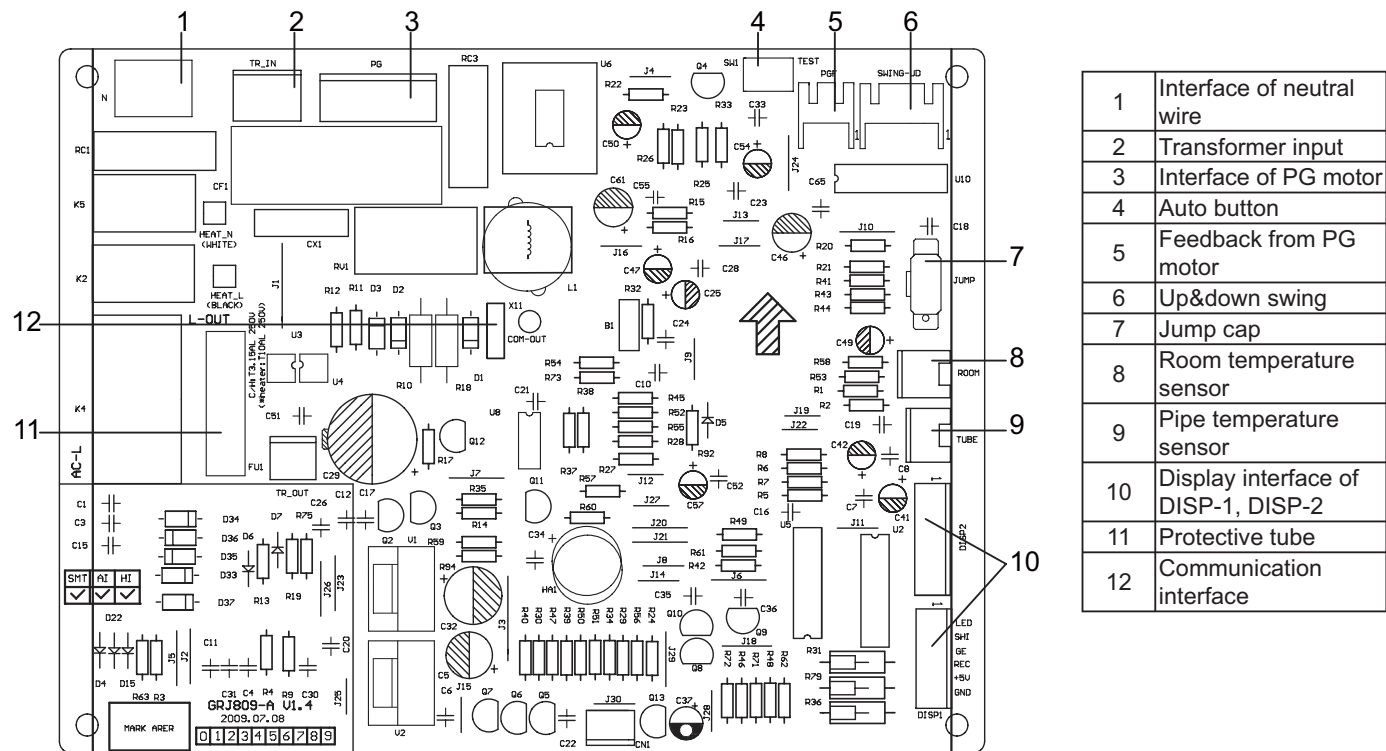


These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

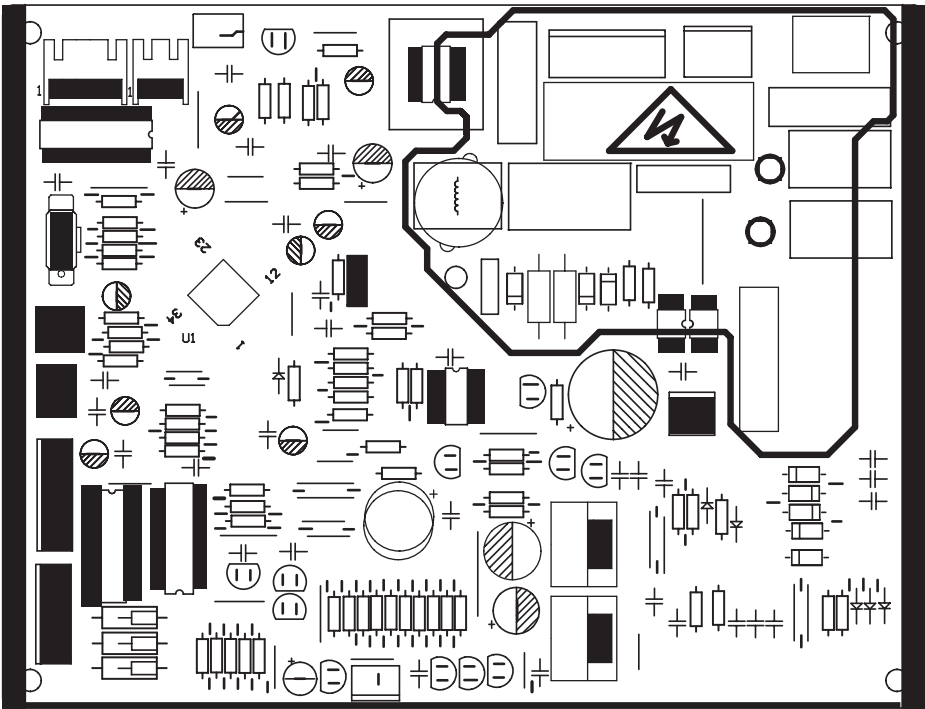
5.3 Printed Circuit Board

(1)Indoor Unit

•TOP VIEW

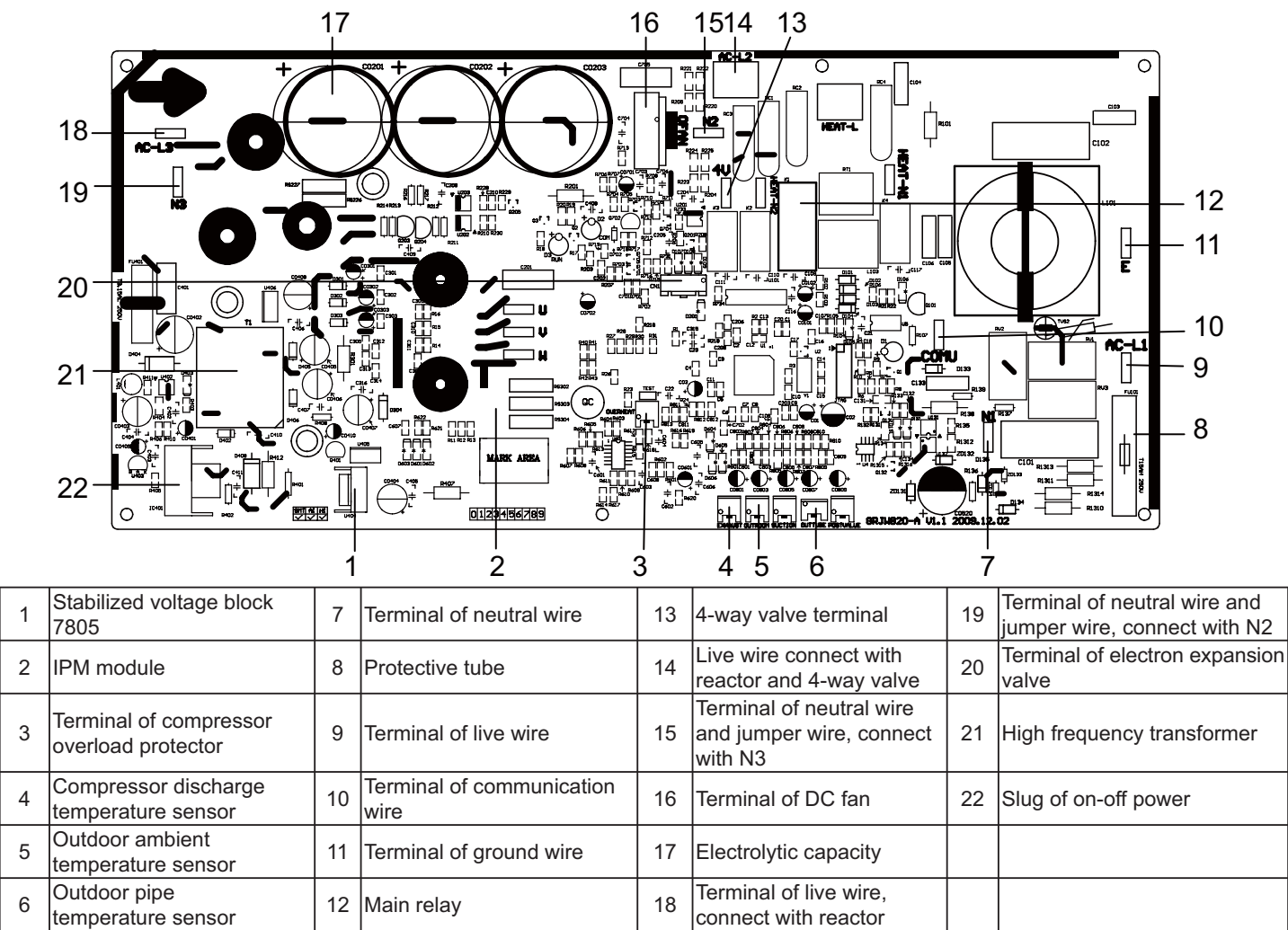


•BOTTOM VIEW

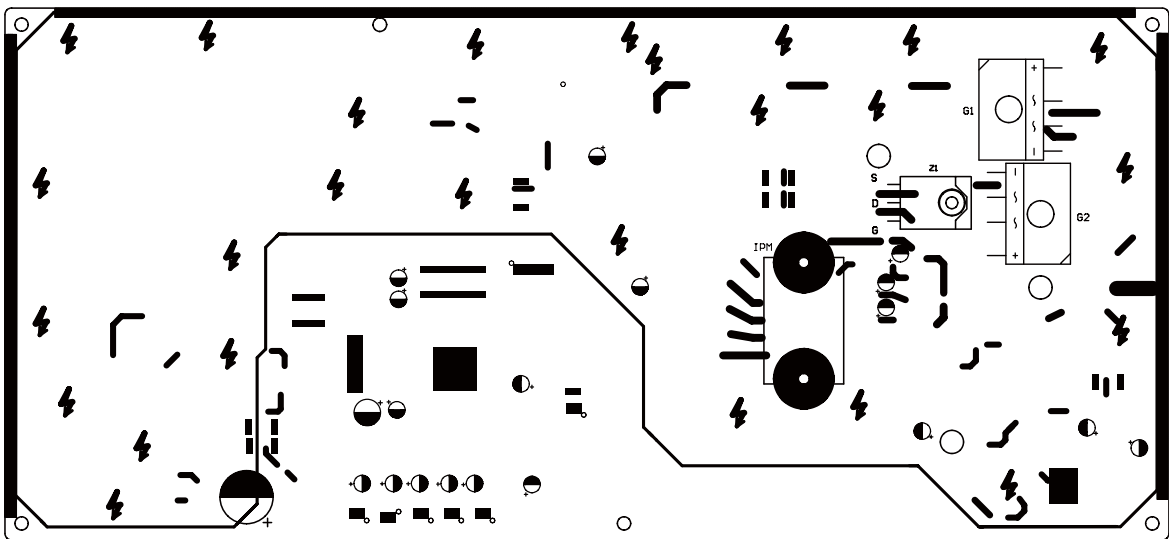


GWH12MB-D3DNA3A 、GWC12MB-D3DNA3A

•TOP VIEW



•BOTTOM VIEW



6. Function and Control

6.1 Remote Control Operations



1 ON/OFF

Press it to start or stop operation.

2 MODE

Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).

3 +

Press it to increase temperature setting.

4 -

Press it to decrease temperature setting.

5 FAN

Press it to set fan speed.

6

Press it to set swing angle.

7 TIMER ON

Press it to set auto-on timer.

8 TIMER OFF

Press it to set auto-off timer.

9 CLOCK

Press it to set clock.

10 X-FAN (X-FAN is the alternative expression of BLOW for the purpose of understanding.)

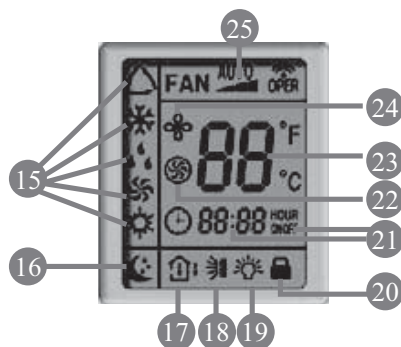
11 TEMP

12 TURBO

13 SLEEP

14 LIGHT

Press it to turn on/off the light.



15 MODE icon:

If MODE button is pressed, current operation mode icon (AUTO), (COOL), (DRY), (FAN) or (HEAT is only for heat pump models) will show.

16 SLEEP icon :

is displayed by pressing the SLEEP button. Press this button again to clear the display.

17 TEMP icon:

Pressing TEMP button, (set temperature), (indoor ambient temperature), (outdoor ambient temperature) and blank is displayed circularly.

18 Up & down swing icon:

is displayed when pressing the up & down swing button. Press this button again to clear the display.

19 LIGHT icon:

💡 is displayed by pressing the LIGHT button. Press LIGHT button again to clear the display.

20 LOCK icon:

🔒 is displayed by pressing "+" and "-" buttons simultaneously. Press them again to clear the display.

21 SET TIME display:

After pressing TIMER button, ON or OFF will blink. This area will show the set time.

22 TURBO icon:

⚡ is displayed when pressing the TURBO button. Press this button again to clear the display.

23 DIGITAL display:

This area will show the set temperature. In SAVE mode, "SE" will be displayed. During defrosting operation, "H1" will be displayed.

24 X-FAN icon:

🌀 is displayed when pressing the X-FAN button. Press this button again to clear the display.

25 FAN SPEED display:

Press FAN button to select the desired fan speed setting (AUTO Low-Med-High). Your selection will be displayed in the LCD windows, except the AUTO fan speed.

1 ON/OFF:

Press this button to turn on the unit. Press this button again to turn off the unit.

2 MODE:

Each time you press this button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT *, as the following:



*Note: Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

3 + :

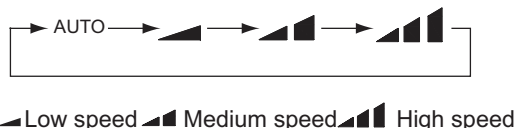
Press this button to increase set temperature. Hold it down for above 2 seconds to rapidly increase set temperature. In AUTO mode, set temperature is not adjustable.

4 -:

Press this button to decrease set temperature. Hold it down for above . 2 seconds to rapidly decrease set temperature. In AUTO mode, set temperature is not adjustable.

5 FAN :

This button is used for setting fan speed in the sequence that goes from AUTO, ◀, ▶, ◀▶ to then back to Auto.



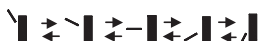
6 🌀

Press this button to set up & down swing angle, which circularly changes as below:




This remote controller is universal. If any command ▶, ◀ or ▶◀ is sent out, the unit will carry out the command as ▶

🌀 indicates the guide louver swings as:





7 TIMER ON:

Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again. After pressing this button,  disappears and "ON" blinks. 0 0:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 seconds after setting, press TIMER ON button to confirm.


8 TIMER OFF:

Press this button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again. TIMER OFF setting is the same as TIMER ON.

9 CLOCK :


Pressing CLOCK button,  blinks. Within 5 seconds, pressing + or - button adjusts the present time. Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting, and then  will be constantly displayed.

10 X-FAN:

Pressing X -FAN button in COOL or DRY mode, the icon  is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though you have turned off the unit.

After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

11 TEMP:

Press this button, could select displaying the indoor setting temperature or indoor ambient temperature. When the indoor unit firstly power on it will display the setting temperature, if the temperature's displaying status is changed from other status to "  ", displays the ambient temperature, 5s later or within 5s, it receives other remote control signal that will return to display the setting temperature. if the users haven't set up the temperature displaying status, that will display the setting temperature.



12 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.



13 SLEEP:

Press this button to go into the SLEEP operation mode. Press it again to cancel this function. This function is available in COOL, HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

14 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on,  is displayed. If the light is turned off,  disappears.

15 Combination of "+" and "-" buttons: About lock

Press "+" and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked,  is displayed. In this case, pressing any button,  blinks three times.

16 Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade At unit OFF, press "MODE" and "-" buttons simultaneously to switch between $^{\circ}\text{C}$ and $^{\circ}\text{F}$.

Replacement of Batteries

1. Remove the battery cover plate from the rear of the remote controller.

(As shown in the figure)

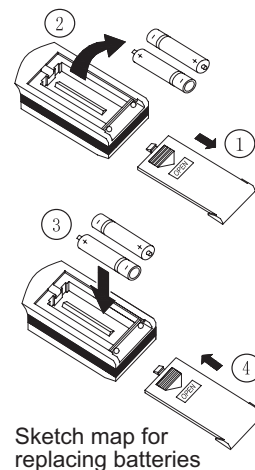
2. Take out the old batteries.

3. Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery cover plate.

★Notes:

- When replacing the batteries, do not use old or different types of batteries. Otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 3.3ft. away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds. If it still can't operate properly, replace the batteries.



6.2 Description of Each Control Operation

1. Temperature Parameters

- ◆ Indoor preset temperature (T_{preset})
- ◆ Indoor ambient temperature ($T_{\text{amb.}}$)

2. Basic Functions

Once energized, in no case should the compressor be restarted within less than 3 minutes. In the situation that memory function is available, for the first energization, if the compressor is at stop before de-energization, the compressor will be started without a 3-minute lag; if the compressor is in operation before de-energization, the compressor will be started with a 3-minute lag; and once started, the compressor will not be stopped within 6 minutes regardless of changes in room temperature;

(1) Cooling Mode

① Working conditions and process of cooling

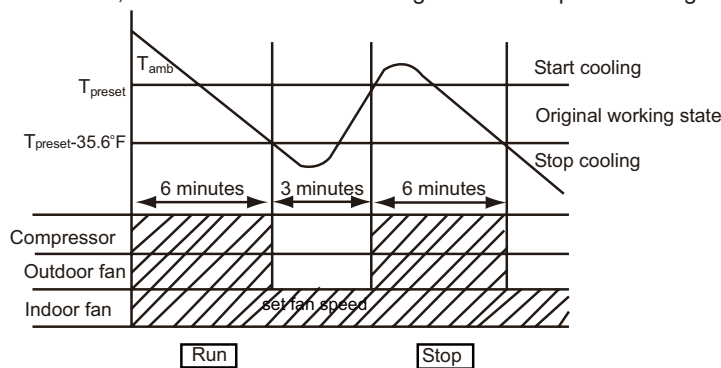
When $T_{\text{amb.}} \geq T_{\text{preset}}$, the unit will enter cooling operation, in which case the indoor fan, the outdoor fan and the compressor will work and the indoor fan will run at preset speed.

When $T_{\text{amb.}} \leq T_{\text{preset}} - 35.6^\circ\text{F}$, the compressor will stop, the outdoor fan will stop with a time lag of 30s, and the indoor fan will run at preset speed.

When $T_{\text{preset}} - 35.6^\circ\text{F} < T_{\text{amb.}} < T_{\text{preset}} + 33.8^\circ\text{F}$, the unit will remain at its previous state.

Under this mode, the four-way valve will be de-energized and temperature can be set within a range from $60.8 \sim 80^\circ\text{F}$.

If the compressor is shut down for some reason, the indoor fan and the swing device will operate at original state.



② Protection

◆ Freeze protection

Under cooling and drying mode, 6 minutes after the compressor is started:

If $T_{\text{evap}} \leq 35.6^\circ\text{F}$, the compressor will operate at reduced frequency.

If $T_{\text{evap}} \leq 33.8^\circ\text{F}$ is detected for durative 3 minutes, the compressor will stop, and after 30 seconds, the outdoor fan will stop; and under cooling mode, the indoor fan and the swing motor will remain at the original state.

If $T_{\text{evap}} \geq 42.8^\circ\text{F}$ and the compressor has remained at OFF for at least 3 minutes, the compressor will resume its original operation state.

◆ Total current up and frequency down protection

For 115V: frequency-decreasing protection when total current is increasing:

When total current $I_{\text{total}} \leq A$, increase frequency is allowed; when total current $I_{\text{total}} \geq B$, increasing frequency is prohibited; when total current $I_{\text{total}} \geq C$, the unit operates by decreasing frequency. When total current $I_{\text{total}} \geq D$, the compressor stops operation, and indoor fan will stop operation after 30s.

9K unit: $A=10\text{A}$, $B=12\text{A}$, $C=14\text{A}$, $D=16\text{A}$; 12K unit: $A=14\text{A}$, $B=16\text{A}$, $C=18\text{A}$, $D=20\text{A}$

For 230V: frequency-decreasing protection when total current is increasing:

When total current $I_{\text{total}} \leq A$, increase frequency is allowed; when total current $I_{\text{total}} \geq B$, increasing frequency is prohibited; when total current $I_{\text{total}} \geq C$, the unit operates by decreasing frequency. When total current $I_{\text{total}} \geq D$, the compressor stops operation, and indoor fan will stop operation after 30s.

9K unit: $A=6\text{A}$, $B=7\text{A}$, $C=8\text{A}$, $D=9\text{A}$; 12K unit: $A=7\text{A}$, $B=8\text{A}$, $C=9\text{A}$, $D=10\text{A}$

(2) Drying Mode

① Working conditions and process of drying

If $T_{\text{amb}} > T_{\text{preset}}$, the unit will enter cooling and drying mode, in which case the compressor and the outdoor fan will operate and the indoor fan will run at low speed.

If $T_{\text{preset}} - 35.6^\circ\text{F} \leq T_{\text{amb}} \leq T_{\text{preset}}$, the compressor remains at its original operation state.

If $T_{\text{amb}} < T_{\text{preset}} - 35.6^\circ\text{F}$, the compressor will stop, the outdoor fan will stop with a time lag of 30s, and the indoor fan will operate at low speed.

② Protection

Protection is the same as that under the cooling mode.

(3) Heating Mode

① Working conditions and process of heating

If $T_{amb} \leq T_{preset} + 35.6^{\circ}\text{F}$, the unit enters heating mode, in which case the four-way valve, the compressor and the outdoor fan will operate simultaneously, and the indoor fan will run at preset speed in the condition of preset cold air prevention.

If $T_{amb} \geq T_{preset} + 41^{\circ}\text{F}$, the compressor will stop, the outdoor fan will stop with a time lag of 30s, and the indoor fan will stop after 60-second blow at low speed

If $T_{preset} + 35.6^{\circ}\text{F} < T_{amb} < T_{preset} + 41^{\circ}\text{F}$, the unit will maintain its original operating status.

Under this mode, the four-way valve is energized and temperature can be set within a range of 60.8 ~to 80°F. The operating symbol, the heating symbol and preset temperature are revealed on the display.

② Condition and process of defrost

When duration of successive heating operation is more than 45 minutes, or accumulated heating time more than 90 minutes, and one of the following conditions is reached, the unit will enter the defrost mode after 3 minutes.

(1). $T_{outdoor\ ambient} > 41^{\circ}\text{F}$, $T_{outdoor\ tube} \leq -35.6^{\circ}\text{F}$;

(2) $-35.6^{\circ}\text{F} \leq T_{outdoor\ ambient} < 41^{\circ}\text{F}$, $T_{outdoor\ tube} \leq -42.8^{\circ}\text{F}$;

(3) $-41^{\circ}\text{F} \leq T_{outdoor\ ambient} < -35.6^{\circ}\text{F}$, $T_{outdoor\ tube} \leq -50^{\circ}\text{F}$;

(4) $-50^{\circ}\text{F} \leq T_{outdoor\ ambient} < -41^{\circ}\text{F}$, $T_{outdoor\ tube} \leq (T_{outdoor\ ambient} - 42.8)^{\circ}\text{F}$.

At that time, the indoor fan stops and the compressor stops, and after 30 seconds the outer fan will stop, and then after 30 seconds, the four-way valve will stop. After 30 seconds, the compressor is initiated for raising the frequency to defrost frequency.

When the compressor has operated under defrost mode for 7.5 minutes, or $T_{outdoor\ amb} < -50^{\circ}\text{F}$, $T_{outdoor\ tube} \leq (T_{outdoor\ amb} - 39.2)^{\circ}\text{F}$, the compressor will be converted to 53Hz operation. After 30 seconds, the compressor will stop. And after another 30 seconds, the four-way valve will be opened, and after 60 seconds, the compressor and the outer fan will be started, the indoor fan will run under preset cold air prevention conditions, and H1 will be displayed at temperature display area on the display panel. Defrost frequency is 70Hz.

③ Protection

◆ Cold air prevention

The unit is started under heating mode (the compressor is ON):

① In the case of $T_{indoor\ amb.} < 75.2^{\circ}\text{F}$: if $T_{tube} \leq 104^{\circ}\text{F}$ and the indoor fan is at stop state, the indoor fan will begin to run at low speed with a time lag of 2 minutes. Within 2 minutes, if $T_{tube} > 104^{\circ}\text{F}$, the indoor fan also will run at low speed; and after 1-minute operation at low speed, the indoor fan will be converted to operation at preset speed. Within 1-minute low speed operation or 2-minute non-operation, if $T_{tube} > 107.6^{\circ}\text{F}$, the fan will run at present speed.

② In the case of $T_{indoor\ amb.} \geq 75.2^{\circ}\text{F}$: if $T_{tube} \leq 107.6^{\circ}\text{F}$, the indoor fan will run at low speed, and after one minute, the indoor fan will be converted to preset speed. Within one-minute low speed operation, if $T_{tube} > 107.6^{\circ}\text{F}$, the indoor fan will be converted to preset speed.

Note: $T_{indoor\ amb.}$ indicated in ① and ② refers to, under initially heating mode, the indoor ambient temperature before the command to start the compressor is performed according to the program, or after the unit is withdrawn from defrost, the indoor ambient temperature before the defrost symbol is cleared.

◆ Total current up and frequency down protection

For 115V: frequency-decreasing protection when total current is increasing:

When total current $I_{total} \leq A$, increase frequency is allowed; when total current $I_{total} \geq B$, increasing frequency is prohibited; when total current $I_{total} \geq C$, the unit operates by decreasing frequency. When total current $I_{total} \geq D$, the compressor stops operation, and indoor fan will stop operation after 30s.

9K unit: $A=10A, B=12A, C=14A, D=16A$; 12K unit: $A=14A, B=16A, C=18A, D=20A$

For 230V: frequency-decreasing protection when total current is increasing:

When total current $I_{total} \leq A$, increase frequency is allowed; when total current $I_{total} \geq B$, increasing frequency is prohibited; when total current $I_{total} \geq C$, the unit operates by decreasing frequency. When total current $I_{total} \geq D$, the compressor stops operation, and indoor fan will stop operation after 30s.

9K unit: $A=6A, B=7A, C=8A, D=9A$; 12K unit: $A=7A, B=8A, C=9A, D=10A$

(4) Fan Mode

Under the mode, the indoor fan will run at preset speed and the compressor, the outdoor fan, the four-way valve and the electric heater will stop.

Under the mode, temperature can be set within a range of 60.8 ~to 80°F.

(5) AUTO Mode

① Working conditions and process of AUTO mode

a. When $T_{ambient} \geq 78.8^{\circ}\text{F}$, the unit will operate in Cool mode. The set temperature is 77°F.

b. When $T_{ambient} \leq 71.6^{\circ}\text{F}$, the heat pump unit will operate in Heat mode., set temperature be 68°F; the cooling only unit will operate in Fan mode, set temperature be 77°F.

c. When $73.4^{\circ}\text{F} \leq T_{ambient} \leq 77^{\circ}\text{F}$, the unit will operate in the previous state. If it is energized for the first time, it will operate in Fan mode.

d. When the unit operates in Auto mode, the compressor frequency during cooling operation is the same with that of heating mode.

② **Protection**

- a. In cooling operation, protection is the same as that under the cooling mode;
- b. In heating operation, protection is the same as that under the heating mode;
- c. When ambient temperature changes, operation mode will be converted preferentially. Once started, the compressor will remain unchanged for at least 6 minutes.

(6) Common Protection Functions and Fault Display under COOL, HEAT, DRY and AUTO Modes

① **Overload protection**

T tube: measured temperature of outdoor heat exchanger under cooling mode; and measured temperature of indoor heat exchanger under heating mode.

1) Cooling overload

- a. If $T_{\text{tube}} \leq 125.6^{\circ}\text{F}$, the unit will return to its original operation state.
- b. If $T_{\text{tube}} \geq 131^{\circ}\text{F}$, frequency rise is not allowed.
- c. If $T_{\text{tube}} \geq 136.4^{\circ}\text{F}$, the compressor will run at reduced frequency.
- d. If $T_{\text{tube}} \geq 143.6^{\circ}\text{F}$, the compressor will stop and the indoor fan will run at preset speed.

2) Heating overload

- a. If $T_{\text{tube}} \leq 125.6^{\circ}\text{F}$, the unit will return to its original operation state.
- b. If $T_{\text{tube}} \geq 131^{\circ}\text{F}$, frequency rise is not allowed.
- c. If $T_{\text{tube}} \geq 136.4^{\circ}\text{F}$, the compressor will run at reduced frequency.
- d. If $T_{\text{tube}} \geq 143.6^{\circ}\text{F}$, the compressor will stop and the indoor fan will blow residue heat and then stop.

② **Exhaust temperature protection of compressor**

If exhaust temperature $\geq 208.4^{\circ}\text{F}$, frequency is not allowed to rise.

If exhaust temperature $\geq 217.4^{\circ}\text{F}$, the compressor will run at reduced frequency.

If exhaust temperature $\geq 230^{\circ}\text{F}$, the compressor will stop.

If exhaust temperature $\leq 194^{\circ}\text{F}$ and the compressor has stayed at stop for at least 3 minutes, the compressor will resume its operation.

③ **Communication fault**

If the unit fails to receive correct signals for durative 3 minutes, communication fault can be justified and the whole system will stop.

④ **Module protection**

Under module protection mode, the compressor will stop. When the compressor remains at stop for at least 3 minutes, the compressor will resume its operation. If module protection occurs six times in succession, the compressor will not be started again.

⑤ **Overload protection**

If temperature sensed by the overload sensor is over 239°F , the compressor will stop and the outdoor fan will stop with a time lag of 30 seconds. If temperature is below 203°F , the overload protection will be relieved.

If voltage on the DC bus is below 150V or over 420V, the compressor will stop and the outdoor fan will stop with a time lag of 30 seconds. When voltage on the DC bus returns to its normal value and the compressor has stayed at stop for at least 3 minutes, the compressor will resume its operation.

⑥ **Faults of temperature sensors**

Designation of sensors	Faults
Indoor ambient temperature	The sensor is detected to be open-circuited or short-circuited for successive 20 seconds
Indoor tube temperature	The sensor is detected to be open-circuited or short-circuited for successive 20 seconds
Outdoor ambient temperature	The sensor is detected to be open-circuited or short-circuited for successive 30 seconds
Outdoor tube temperature	The sensor is detected to be open-circuited or short-circuited for successive 30 seconds, and no detection is performed within 10 minutes after defrost begins.
Exhaust	After the compressor has operated for 3 minutes, the sensor is detected to be open-circuited or short-circuited for successive 30 seconds.
Overload	After the compressor has operated for 3 minutes, the sensor is detected to be open-circuited or short-circuited for successive 30 seconds.

3. Other Controls

(1) ON/OFF

Press the remote button ON/OFF: the on-off state will be changed once each time you press the button.

(2) Mode Selection

Press the remote button MODE, then select and show in the following ways: AUTO, COOL, DRY, FAN, HEAT, AUTO.

(3) Temperature Setting Option Button

Each time you press the remote button TEMP+ or TEMP-, the setting temperature will be up or down by 33.8°F. Regulating range: 60.8 ~to 80°F, the button is useless under the AUTO mode.

(4) Time Switch

You should start and stop the machine according to the setting time by remote control.

(5) SLEEP State Control

a. When the air conditioner is under the mode of COOL, DRY, and the SLEEP mode has been set well, after the SLEEP state keeps about 1 hour, the pre-setting T will raise 33.8°F, and it will raise 33.8°F again after 2 hours, so it raise 35.6°F in 2 hours, then it will run on at the setting temperature and wind speed.

b. When the air conditioner is under the mode of HEAT, and the Timer has been set well, after the SLEEP state keeps about 1 hour, the pre-setting T will reduce 33.8°F, and it will reduce 33.8°F again after 2 hours, so it reduce 35.6°F in 2 hours, then it will run on at the setting temperature and wind speed.

c. The setting temperature keeps the same under the FAN mode and AUTO mode.

(6) Indoor Fan Control

The Indoor Fan can be set as HIGH, MED, LOW by remote control, and the Indoor Fan will be respectively run at high, medium, low speed. It will also be set as AUTO, and the Indoor Fan is as the followings at the automatic wind speed.

Cooling mode: $\text{Tring} \geq \text{Tsetting} + 35.6^\circ\text{F}$, high speed; $\text{Tsetting} - 35.6^\circ\text{F} < \text{Tring} < \text{Tsetting} + 35.6^\circ\text{F}$, medium speed; $\text{Tring} \leq \text{Tsetting} - 35.6^\circ\text{F}$, low speed.

Sending wind mode: : $\text{Tring} > \text{Tsetting} + 39.2^\circ\text{F}$, high speed; $\text{Tsetting} + 35.6^\circ\text{F} \leq \text{Tring} \leq \text{Tsetting} + 39.2^\circ\text{F}$, medium speed; $\text{Tring} < \text{Tsetting} + 35.6^\circ\text{F}$, low speed.

Moisture removal mode: force to be set as the low speed

Heating mode: $\text{Tring} \leq \text{Tsetting} + 33.8^\circ\text{F}$, high speed; $\text{Tsetting} + 33.8^\circ\text{F} < \text{Tring} < \text{Tsetting} + 41^\circ\text{F}$, medium speed; $\text{Tring} \geq \text{Tsetting} + 35.6^\circ\text{F}$, low speed.

(7) Buzzer Control

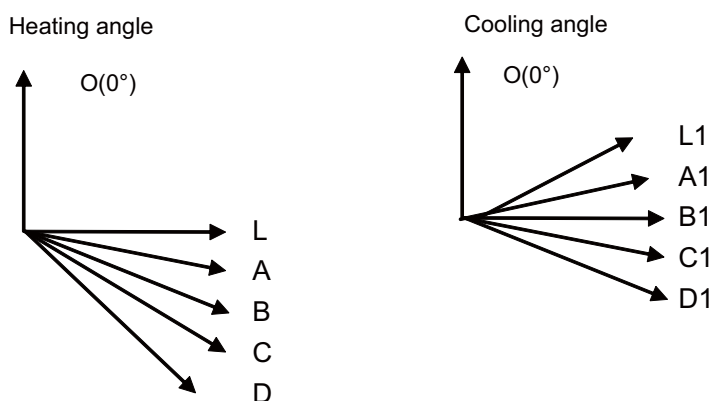
The buzzer will send a “Di” sound when the air conditioner is powered up or received the information sent by the remote control or there is a button input, the single tube cooler doesn’t receive the remote control ON signal under the mode of heating mode.

(8) Auto button

If the controller is on, it will stop by pressing the button, and if the controller is off, it will be automatic running state by pressing the button, swing on and light on, and the main unit will run based on the remote control if there is remote control order.

(9) Up-and-Down Swinging Control

When power on, the up-and-down motor will firstly move the air deflector to o counter-clockwise, close the air outlet. After starting the machine, if you don’t set the swinging function, heating mode and auto-heating mode, the up-and-down air deflector will move to D clockwise; under other modes, the up-and-down air deflector will move to L1. If you set the swinging function when you start the machine, then the wind blade will swing between L and D. The air deflector has 7 swinging states: Location L, Location A, Location B, Location C, Location D, Location L to Location D, stop at any location between L~D (the included angle between L~D is the same). The air deflector will be closed at 0 Location, and the swinging is effectual only on condition that setting the swinging order and the inner fan is running. The indoor fan and compressor may get the power when air deflector is on the default location.



(10) Display**① Operation pattern and mode pattern display**

All the display patterns will display for a time when the power on, the operation indication pattern will display in red under standby status. When the machine is start by remote control, the indication pattern will light and display the current operation mode (the mode light includes: Cooling, heating and dehumidify). If you close the light key, all the display patterns will close.

② Double-8 display

According to the different setting of remote control, the nixie light may display the current temperature (the temperature scope is from 60.8 ~to 80°F) and indoor ambient temperature. The heating and air supply temperature will display 77°F under auto-mode, the temperature will display 64.4°F under the heating mode, and the temperature will display H1 under the defrosting mode.(If you set the fahrenheit temperature display, the nixie light will display according to fahrenheit temperature)

(11) Protection function and failure display

E2: Freeze-proofing protection E4: Exhausting protection E5: Overcurrent protection

E6: Communication failure H4: Overload protection

F1: Indoor ambient sensor start and short circuit (continuously measured failure in 30S)

F2: Indoor evaporator sensor start and short circuit (continuously measured failure in 30S)

F3: Outdoor ambient sensor start and short circuit (continuously measured failure in 30S)

F4: Outdoor condenser sensor start and short circuit (continuously measured failure in 30S, and don't measure within 10 minutes after defrosted)

F5: Outdoor exhausting sensor start and short circuit (continuously measured failure in 30S after the compressor operated 3 minutes)

H3: Overload protection of compressor H5: Module protection

PH: High-voltage protection PL: Low-voltage protection

P1: Nominal cooling and heating P2: Maximum cooling and heating

P3: Medium cooling and heating P0: Minimum cooling and heating

(12) Drying Function

You may start or stop the drying function under the modes of cooling and dehumidify at the starting status (The modes of automatism, heating and air supply do not have drying function). When you start the drying function, after stop the machine by pressing the switch button, you should keep running the inner fans for 10 minutes under low air damper (The swing will operate as the former status within 10 minutes, and other load is stopped), then stop the entire machine; When you stop the drying function, press the switch button will stop the machine directly. When you start the drying function, operating the drying button will stop the inner fans and close the guide louver.

(13) Memory function when interrupting the power supply

Memory content: mode, swing function, light, set temperature and wind speed. After interrupted the power supply, the machine will start when recovering the power according to the memory content automatically. If the last remote control command has not set the timed function, the system will remember the last remote control command and operate according it. If the last remote control command has set timed function and the power supply is interrupted before the timed time, the system will remember the timed function of the last remote control command, the timed time will recounted form power on. If the last remote control command has set timed function, the time is out and the system is start or stop according to the set time when the power supply is interrupted, the system will remember the operation status before the power supply was interrupted, and do not carry out timed action; The timed clock will not remembered.

7. Installation Manual

7.1 Notices for Installation

Caution

- 1.The unit should be installed only by authorized service center according to local or government regulations and in compliance with this manual.
- 2.Before installing, please contact with local authorized maintenance center. If the unit is not installed by the authorized service center, the malfunction may not be solved due to inconvenient contact between the user and the service personnel.
- 3.When removing the unit to the other place, please firstly contact with the local authorized service center.
- 4.Warning: Before obtaining access to terminals, all supply circuits must be disconnected.
- 5.For appliances with type Y attachment, the instructions shall contain the substance of the following. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- 6.The appliance must be positioned so that the plug is accessible.
- 7.The temperature of refrigerant line will be high; please keep the interconnection cable away from the copper tube.
- 8.The instructions shall state the substance of the following:

This appliance is not intended for use by persons(including children)with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

7.1.1 Installation Site Instructions

Proper installation site is vital for correct and efficient operation of the unit. Avoid the following sites where:

- strong heat sources, vapours, flammable gas or volatile liquids are emitted.
- high-frequency electro-magnetic waves are generated by radio equipment, welders and medical equipment.
- salt-laden air prevails (such as close to coastal areas).
- the air is contaminated with industrial vapours and oils.
- the air contains sulphures gas such as in hot spring zones.
- corrosion or poor air quality exists.

7.1.2 Installation Site of Indoor Unit

- 1.The air inlet and outlet should be away from the obstructions. Ensure the air can be blown through the whole room.
- 2.Select a site where the condensate can be easily drained out, and where it is easily connected to outdoor unit.
- 3.Select a place where it is out of reach of children.
- 4.Select a place where the wall is strong enough to withstand the full weight and vibration of the unit.
- 5.Be sure to leave enough space to allow access for routine maintenance.
- 6.Select a place about 2.3ft. or more away from TV set or any other electric appliance.
- 7.Select a place where the filter can be easily taken out.
- 8.Make sure that the indoor unit is installed in accordance with installation dimension instructions.
- 9.Do not use the unit in the laundry or by swimming pool etc.

7.1.3 Installation Site of Outdoor Unit

- 1.Select a site where noise and outflow air emitted by the unit will not annoy neighbors.
- 2.S elect a site where there is sufficient ventilation.
- 3.Select a site where there is no obstruction blocking the inlet and outlet.
- 4.The site should be able to withstand the full weight and vibration.
- 5.Select a dry place, but do not expose the unit to direct sunlight or strong wind.
- 6.Make sure that the outdoor unit is installed in accordance with the installation instructions,and is convenient for maintenance and repair.
- 7.The height difference between indoor and outdoor units is within 33 ft., and the length of the connecting tubing does not exceed 66 ft..
- 8.Select a place where it is out of reach of children.
- 9.Select a place where the unit does not have negative impact on pedestrians or on the city.

7.1.4 Safety Precautions for Electric Appliances

1. A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2. Don't drag the power cord with excessive force.
3. The unit should be reliably earthed and connected to an exclusive earth device by the professionals.
4. The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overload.
5. The minimum distance between the unit and combustive surface is 59.1in..
6. The appliance shall be installed in accordance with national wiring regulations.
7. An all-pole disconnection switch with a contact separation of at least 0.1in. in all poles should be connected in fixed wiring.

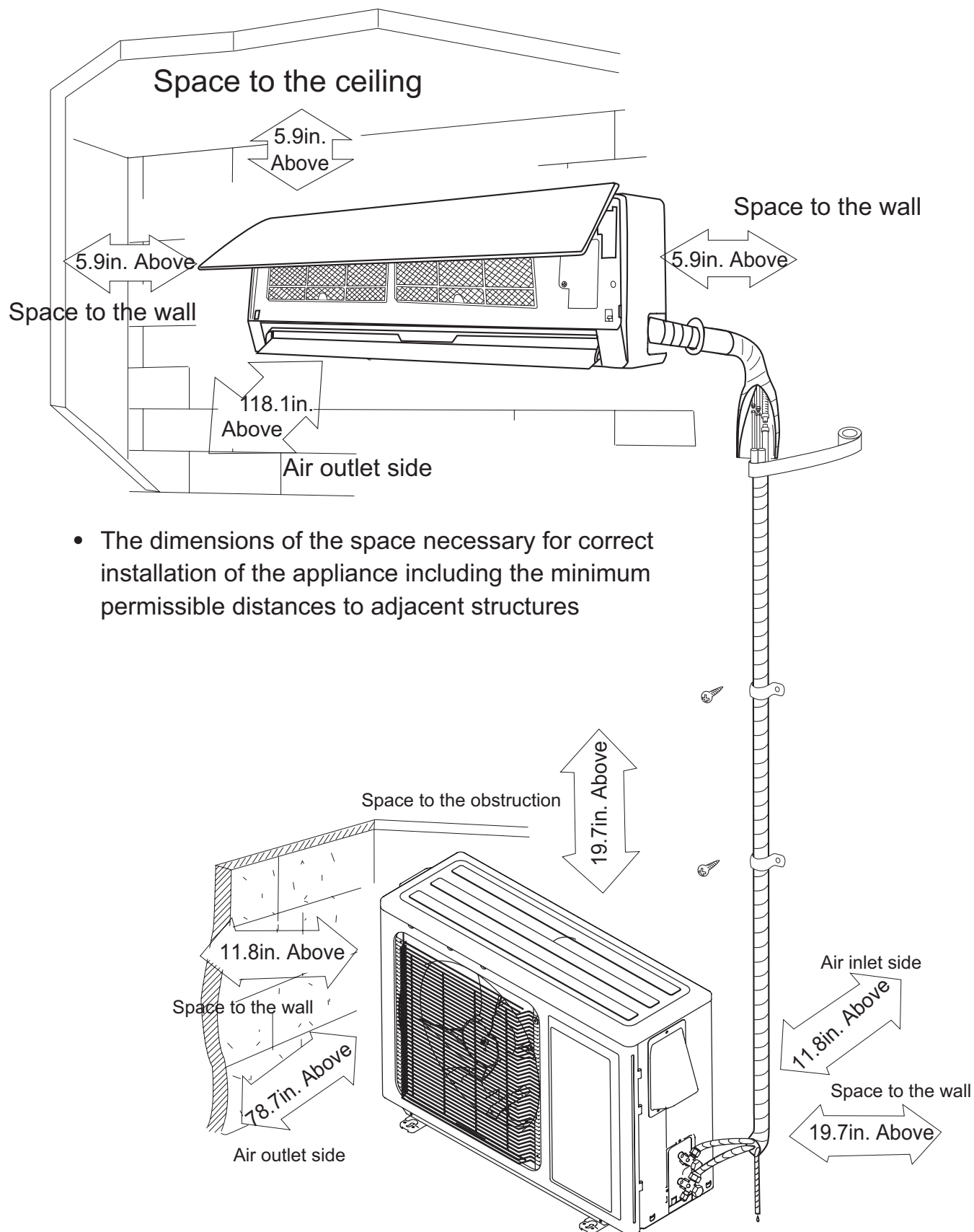
Note:

- **Make sure the live wire, neutral wire and earth wire in the family power socket are properly connected. There should be reliable circuit in the diagram.**
- **Inadequate or incorrect electrical connections may cause electric shock or fire.**

7.1.5 Earthing Requirements

1. Air conditioner is type I electric appliance. Please ensure that the unit is reliably earthed.
2. The yellow-green wire in air conditioner is the earthing wire which can not be used for other purposes. Improper earthing may cause electric shock.
3. The earth resistance should accord to the national criterion.
4. The power must have reliable earthing terminal. Please do not connect the earthing wire with the following:
 - ① Water pipe ② Gas pipe ③ Contamination pipe
 - ④ Other place that professional personnel consider is unreliable
5. The model and rated values of fuses should accord with the silk print on fuse cover or related PCB.

7.2 Installation Drawing



- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures

7.3 Install Indoor Unit

7.3.1 Installation of Mounting Plate

1. Mounting plate should be installed horizontally. As the water tray's outlet for the indoor unit is two-way type, during installation, the indoor unit should slightly slant to water tray's outlet for smooth drainage of condensate.
2. Fix the mounting plate on the wall with screws.
3. Be sure that the mounting plate has been fixed firmly enough to withstand about 132lb. . Meanwhile, the weight should be evenly shared by each screw.

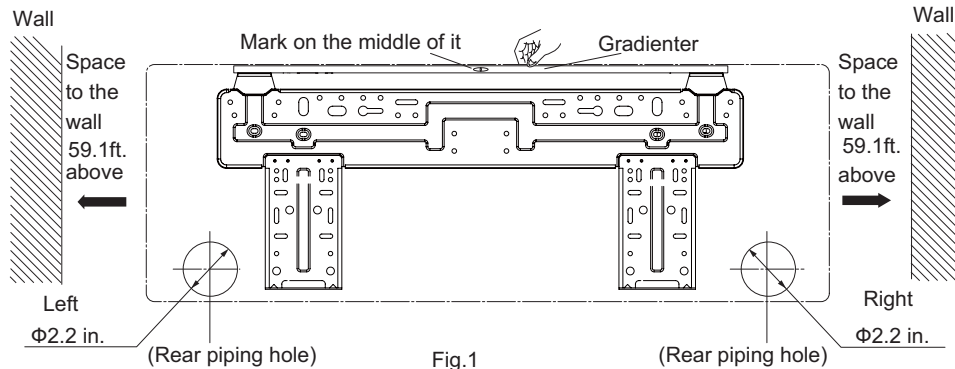
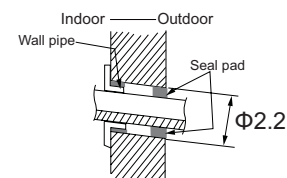


Fig.1

7.3.2 Drill Piping Hole

1. Slant the piping hole (Φ2.2 in.) on the wall slightly downward to the outdoor side.
2. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

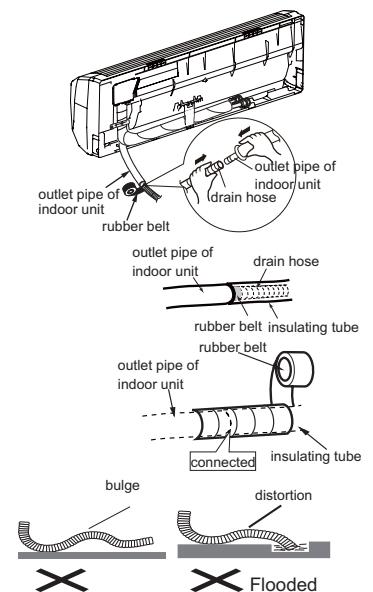


7.3.3 Installation of Drain Hose

1. Connect the drain hose to the outlet pipe of the indoor unit. Bind the joint with rubber belt.
2. Put the drain hose into insulating tube.

3. Wrap the insulating tube with wide rubber belt to prevent the shift of insulating tube. Slant the drain hose downward slightly for smooth drainage of condensate.

Note: The insulating tube should be connected reliably with the sleeve outside the outlet pipe. The drain hose should be slanted downward slightly, without distortion, bulge or fluctuation. Do not put the outlet in the water.



7.3.4 Connecting Indoor and Outdoor Electric Wires

1. Open the front panel.
2. Remove the wiring cover .Connect and fix the power connection cord to the terminal board as shown in Fig 2.
3. Make the power connection cord pass through the hole at the back of indoor unit.
4. Reinstall the cord anchorage and wiring cover.
5. Reinstall the front panel.

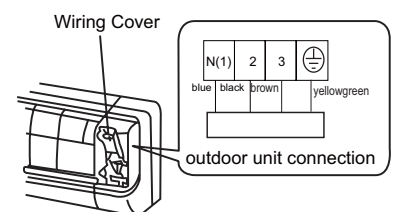


Fig.2

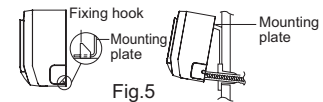
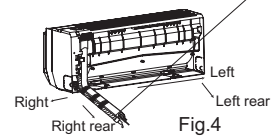
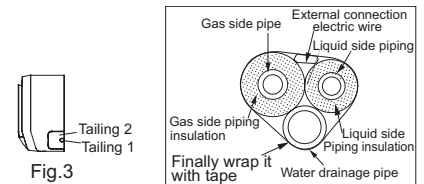
NOTE:

All wires between indoor and outdoor units must be connected by the qualified electric contractor.

- Electric wires must be connected correctly. Improper connection may cause malfunction.
- Tighten the terminal screws securely.
- After tightening the screws, pull the wire slightly to confirm whether it's firm or not.
- Make sure that the electric connections are earthed properly to prevent electric shock.
- Make sure that all wiring connections are secure and the cover plates are reinstalled properly. Poor installation may cause fire or electric shock.

7.3.5 Installation of Indoor Unit

- The piping can be output from right, right rear, left or left rear.
1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis when necessary (As shown in Fig.3)
 - (1) Cut off tailing 1 when routing the wiring only;
 - (2) Cut off tailing 1 and tailing 2 when routing both the wiring and piping.
 2. Take out the piping from body case; wrap the piping, power cords, drain hose with the tape and then make them pass through the piping hole. (As shown in Fig.4)
 3. Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough. (As shown in Fig.5)
 4. The installation site should be 250cm or more above the floor.

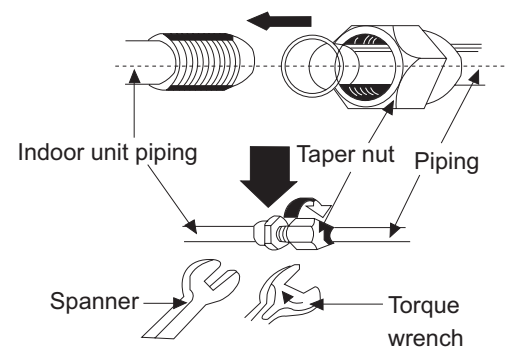


7.3.6 Installation of Connection Pipe

1. Align the center of the pipe flare with the related valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench by referring to the following:

Tube diameter	Tightening torque, approximate (N·m)
Φ6.35(1/4")	14~18N·m(140-180kgf.cm)
Φ9.52(3/8")	34~42N·m(340-420kgf.cm)
Φ12.7(1/2")	49~61N·m(490-610kgf.cm)
Φ15.88(5/8")	68~82N·m(680-820kgf.cm)

NOTE: Connect the connection pipe to indoor unit at first and then to outdoor unit. Handle piping bending with care. Do not damage the connection pipe. Ensure that the joint nut is tightened firmly, otherwise, it may cause leakage.



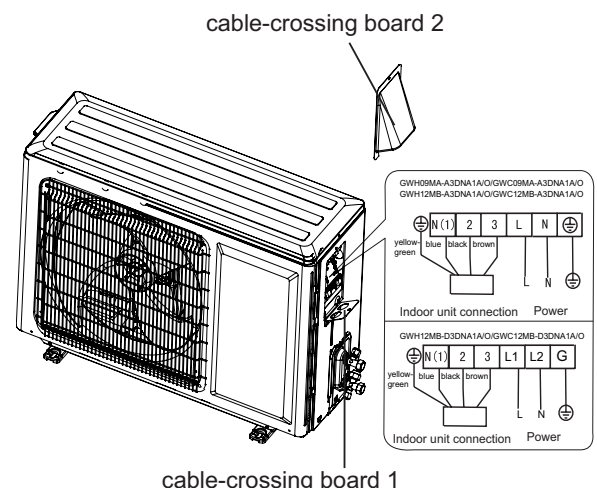
7.4 Install Outdoor Unit

7.4.1 Electric Wiring

1. Remove the cable-crossing board 2 of right side plate for outdoor unit.
2. Remove the wire clamp, pass the power connection wire through the cable-crossing board 1 to connect the terminal and then fix them together. The wiring distribution must match with the indoor unit.
3. Fix the power connection wires with wire clamp tightly.
4. Check whether the wiring is fixed well.
5. Install the cable-crossing board 2.

NOTE:

- Incorrect wiring may cause malfunction of spare part.
 - After the wire has been fixed, ensure there is free space between the connection and fixing places on the lead wire.
- Schematic diagram being reference only, please refer to real product for authentic information.



7.4.2 Air Purging and Leakage Test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut). Connect joint of charging hose to vacuum pump.
3. Fully open the handle of Lo manifold valve.
4. Open the vacuum pump for vacuumization. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside (If noise of vacuum pump has been changed, the reading of multimeter is 0). Then tighten the nut.
5. Keep vacuuming for more than 15mins and make sure the reading of multi-meter is -14.5PSI(-29.9in.Hg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten lid of low pressure valve. (As shown in Fig.6)

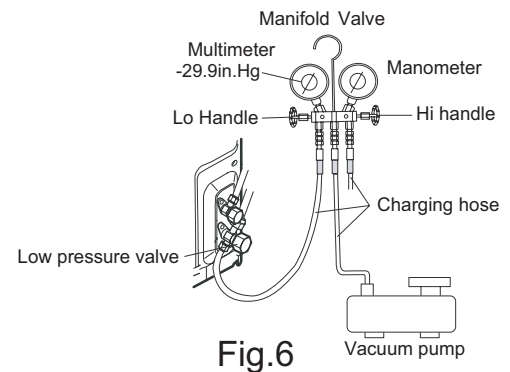
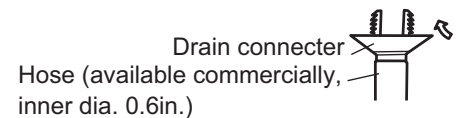
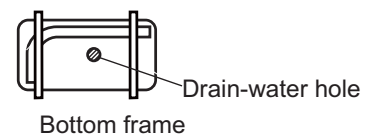


Fig.6

7.4.3 Outdoor Condensate Drainage (only for Heat pump unit)

During heating operation, the condensate and defrosting water should be drained out reliably through the drain hose. Install the outdoor drain connector in a $\Phi 9.8$ in. hole on the base plate and attach the drain hose to the connector so that the waste water formed in the outdoor unit can be drained out. The hole diameter 9.8in. must be plugged. Whether to plug other holes will be determined by the dealers according to actual conditions.



7.5 Check after Installation and Operation Test

7.5.1 Check after Installation

Items to be checked	Possible malfunction
Has it been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating) capacity
Is heat insulation sufficient?	It may cause condensation and dripping.
Is water drainage satisfactory?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the product.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage the part.
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the part.
Are the inlet and outlet openings blocked?	It may cause insufficient cooling(heating) capacity.
Is the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

7.5.2 Operation Test

1.Before Operation Test

- (1) Do not switch on power before installation is finished completely.
- (2) Electric wiring must be connected correctly and securely.
- (3) Cut-off valves of the connection pipes should be opened.
- (4) All the impurities such as scraps and thrums must be cleared from the unit.

2.Operation Test Method

- (1) Switch on power and press "ON/OFF" button on the remote controller to start operation.
- (2) Press MODE button to select the COOL, HEAT (Not available for cooling only unit), FAN to check whether the operation is normal or not.

7.6 Installation and Maintenance of Healthy Filter

7.6.1 Installation of Healthy Filter

1. Lift up the front panel from its two ends, as shown by the arrow direction, and then remove the air filter. (As shown in fig a)

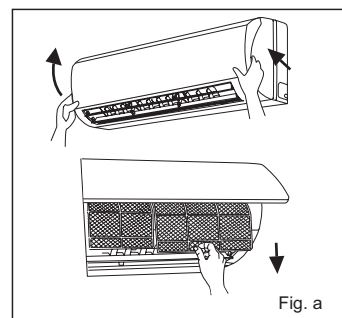


Fig. a

2. Attach the healthy filter onto the air filter. (as shown in fig b)

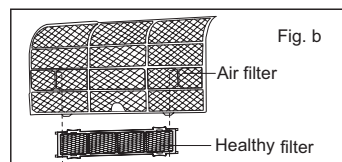


Fig. b

3. Install the air filter properly along the arrow direction in Fig.c, and then close the panel .

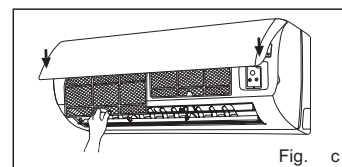


Fig. c

7.6.2 Cleaning and Maintenance

Remove the healthy filter and reinstall it after cleaning according to the installation instruction. Don't use brush or hard things to clean the filter. After cleaning, be sure to dry it in the shade.

7.6.3 Service Life

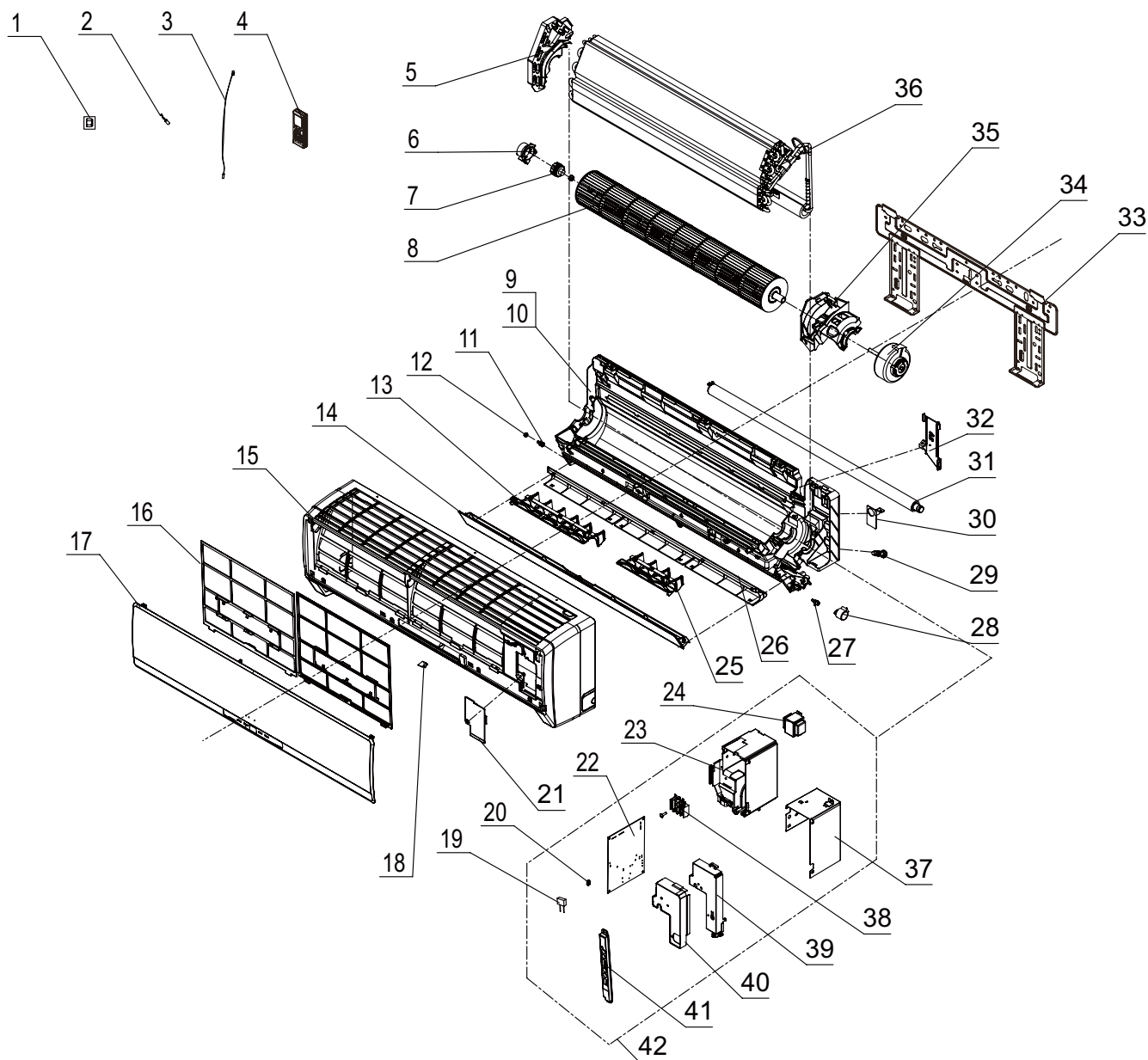
The general service life for the healthy filter is about one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

● This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the actual product, please refer to the actual product. The quantity of healthy filters is based on the actual delivery.

8. Exploded Views and Parts List

8.1 Indoor Unit

GWH09MA-A3DNA3A/I, GWC09MA-A3DNA3A/I, GWH12MB-A3DNA3A/I, GWC12MB-A3DNA3A/I, GWH12MB-D3DNA3A/I, GWC12MB-D3DNA3A/I



NO.	Description	Part Code		Qty
		GWH09MA-A3DNA3A/I	GWC09MA-A3DNA3A/I	
	Product Code	CB171N0100	CB171N0090	
1	Pipe Connection Nut Accessories	06320020	06320020	1
2	Tube Sensor	390000591G	390000591G	1
3	Ambient Temperature Sensor	390000451	390000451	1
4	Remote Controller	305100482	305100482	1
5	Evaporator Support	24212091	24212091	1
6	Ring of Bearing	26152022	26152022	1
7	O-Gasket sub-assy of Bearing	76512051	76512051	1
8	Cross Flow Fan	10352017	10352017	1
9	Rear Case assy	2220210309	2220210309	1
10	Rear Case	2220245405	2220245405	1
11	Axile Bush	10542008	10542008	1
12	Left Axile Bush	10512037	10512037	1
13	Air Louver 1	10512164	10512164	1
14	Guide Louver	10512157	10512157	1
15	Front Case Sub-assy	2001213914	2001213914	1
16	Filter Sub-Assy	1112220403	1112220403	2
17	Front Panel Sub-Assy	20012548	20012548	1
18	Screw Cover	24252016	24252016	1
19	Capacitor	3301000214	3301000214	1
20	Jumper	4202300101	4202300101	1
21	Electric Box Cover2	20122075	20122075	1
22	Main Board	30138587	30138586	1
23	Electric Box	20112082	20112082	1
24	Transformer	43110256	43110256	1
25	Air Louver 2	10512165	10512165	1
26	Helicoid Tongue	26112163	26112163	1
27	Crank	10582070	10582070	1
28	Step Motor	1521210801	1521210801	1
29	Rubber Plug (Water Tray)	76712012	76712012	1
30	Cable Cross Plate	02122019	02122019	1
31	Drainage Hose	0523001401	0523001401	1
32	Pipe Clamp	26112164	26112164	1
33	Wall Mounting Frame	01252021	01252021	1
34	Fan Motor	1501208902	1501208902	1
35	Motor Press Plate	26112161	26112161	1
36	Evaporator Assy	01002321	01002321	1
37	Lower Shield Sub-assy of Electric Box	01592072	01592072	1
38	Terminal Board	42011233	42011233	1
39	Electric Box Cover1	20122103	20122103	1
40	Shield Cover of Electric Box Sub-assy	01592073	01592073	1
41	Display Board	30565007	30565007	1
42	Electric Box Assy	2020212850	2020212849	1

The data above are subject to change without notice.

Exploded Views and Parts List

NO.	Description	Part Code		Qty
		GWH12MB-A3DNA3A/I	GWC12MB-A3DNA3A/I	
	Product Code	CB171N0120	CB171N0110	
1	Pipe Connection Nut Accessories	06320020	06320020	1
2	Tube Sensor	390000591G	390000591G	1
3	Ambient Temperature Sensor	390000451	390000451	1
4	Remote Controller	305100482	305100482	1
5	Evaporator Support	24212091	24212091	1
6	Ring of Bearing	26152022	26152022	1
7	O-Gasket sub-assy of Bearing	76512051	76512051	1
8	Cross Flow Fan	10352017	10352017	1
9	Rear Case assy	2220210309	2220210309	1
10	Rear Case	2220245405	2220245405	1
11	Axile Bush	10542008	10542008	1
12	Left Axile Bush	10512037	10512037	1
13	Air Louver 1	10512164	10512164	1
14	Guide Louver	10512157	10512157	1
15	Front Case Sub-assy	2001213914	2001213914	1
16	Filter Sub-Assy	1112220403	1112220403	2
17	Front Panel Sub-Assy	20012548	20012548	1
18	Screw Cover	24252016	24252016	1
19	Capacitor	3301000214	3301000214	1
20	Jumper	4202300102	4202300102	1
21	Electric Box Cover2	20122075	20122075	1
22	Main Board	30138587	30138586	1
23	Electric Box	20112082	20112082	1
24	Transformer	43110256	43110256	1
25	Air Louver 2	10512165	10512165	1
26	Helicoid Tongue	26112163	26112163	1
27	Crank	10582070	10582070	1
28	Step Motor	1521210801	1521210801	1
29	Rubber Plug (Water Tray)	76712012	76712012	1
30	Cable Cross Plate	02122019	02122019	1
31	Drainage Hose	0523001401	0523001401	1
32	Pipe Clamp	26112164	26112164	1
33	Wall Mounting Frame	01252021	01252021	1
34	Fan Motor	1501208902	1501208902	1
35	Motor Press Plate	26112161	26112161	1
36	Evaporator Assy	01002321	01002321	1
37	Lower Shield Sub-assy of Electric Box	01592072	01592072	1
38	Terminal Board	42011233	42011233	1
39	Electric Box Cover1	20122103	20122103	1
40	Shield Cover of Electric Box Sub-assy	01592073	01592073	1
41	Display Board	30565007	30565007	1
42	Electric Box Assy	2020212852	2020212851	1

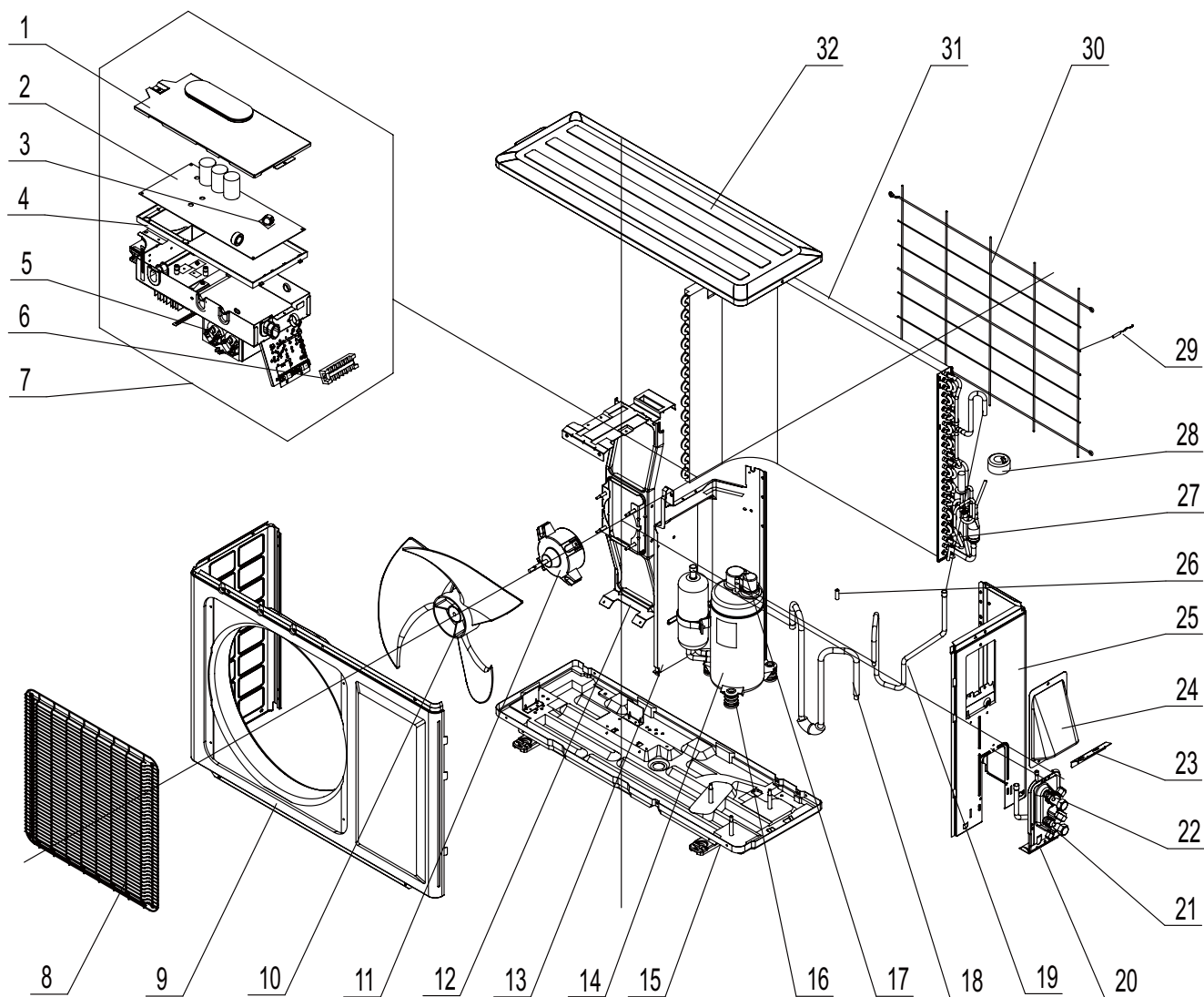
The data above are subject to change without notice.

NO.	Description	Part Code		Qty
		GWH12MB-D3DNA3A/I	GWC12MB-D3DNA3A/I	
	Product Code	CB171N0160	CB171N0150	
1	Pipe Connection Nut Accessories	06320020	06320020	1
2	Tube Sensor	390000591G	390000591G	1
3	Ambient Temperature Sensor	390000451	390000451	1
4	Remote Controller	305100482	305100482	1
5	Evaporator Support	24212091	24212091	1
6	Ring of Bearing	26152022	26152022	1
7	O-Gasket sub-assy of Bearing	76512051	76512051	1
8	Cross Flow Fan	10352017	10352017	1
9	Rear Case assy	2220210309	2220210309	1
10	Rear Case	2220245405	2220245405	1
11	Axile Bush	10542008	10542008	1
12	Left Axile Bush	10512037	10512037	1
13	Air Louver 1	10512164	10512164	1
14	Guide Louver	10512157	10512157	1
15	Front Case Sub-assy	2001213914	2001213914	1
16	Filter Sub-Assy	1112220403	1112220403	2
17	Front Panel Sub-Assy	20012548	20012548	1
18	Screw Cover	24252016	24252016	1
19	Capacitor CBB61	33010002	33010002	1
20	Jumper	4202300102	4202300102	1
21	Electric Box Cover2	20122075	20122075	1
22	Main Board	30138288	30138287	1
23	Electric Box	20112082	20112082	1
24	Transformer	43110293	43110293	1
25	Air Louver 2	10512165	10512165	1
26	Helicoid Tongue	26112163	26112163	1
27	Crank	10582070	10582070	1
28	Step Motor	1521210801	1521210801	1
29	Rubber Plug (Water Tray)	76712012	76712012	1
30	Cable Cross Plate	02122019	02122019	1
31	Drainage Hose	0523001401	0523001401	1
32	Pipe Clamp	26112164	26112164	1
33	Wall Mounting Frame	01252021	01252021	1
34	Fan Motor	15012089	15012089	1
35	Motor Press Plate	26112161	26112161	1
36	Evaporator Assy	01002321	01002321	1
37	Lower Shield Sub-assy of Electric Box	01592072	01592072	1
38	Terminal Board	42011233	42011233	1
39	Electric Box Cover1	20122103	20122103	1
40	Shield Cover of Electric Box Sub-assy	01592073	01592073	1
41	Display Board	30565007	30565007	1
42	Electric Box Assy	2020212819	2020212826	1

The data above are subject to change without notice.

8.2 Outdoor Unit

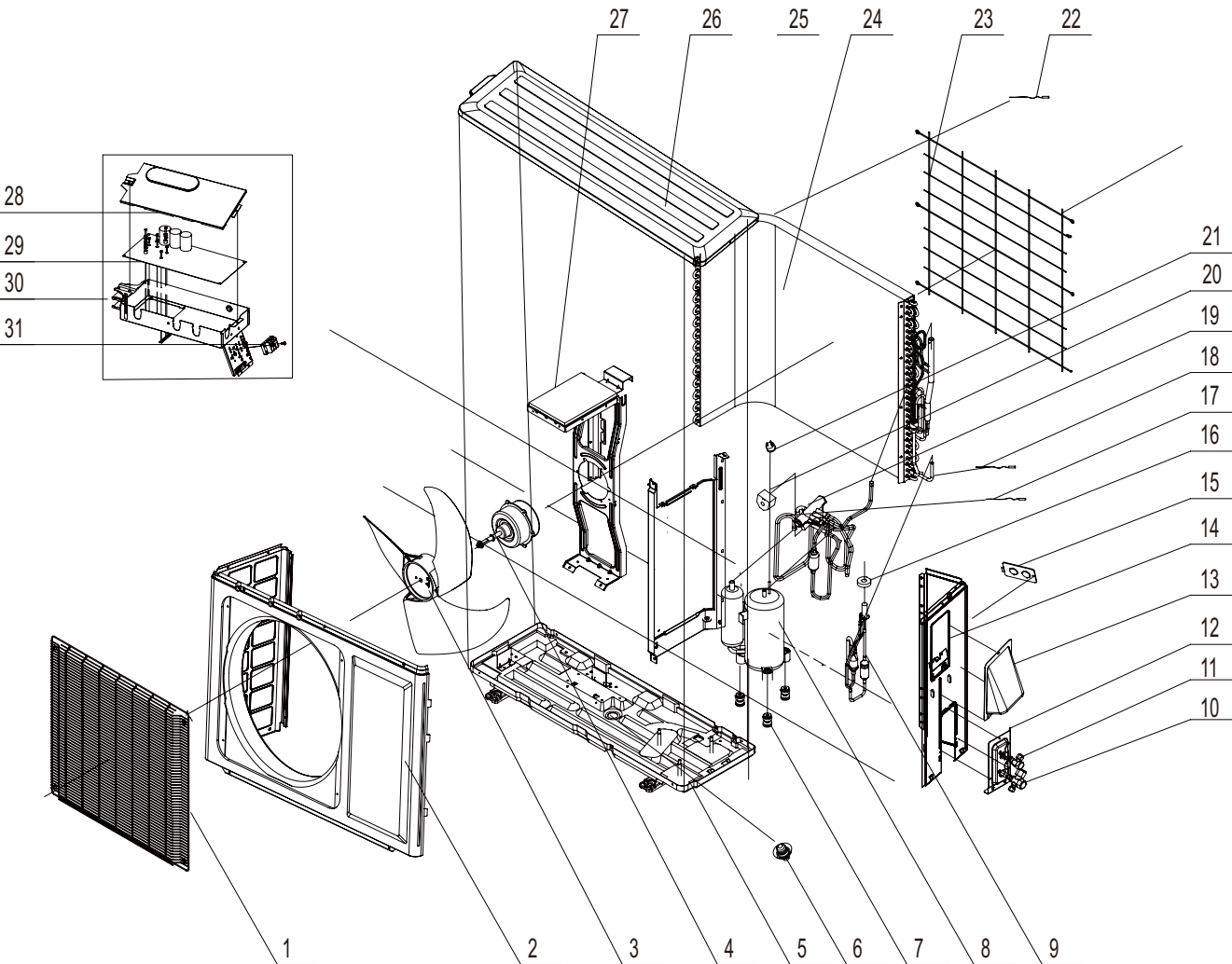
GWC09MA-A3DNA1A/O、GWC12MB-A3DNA1A/O



NO.	Description	Part Code		Qty
		GWC09MA-A3DNA1A/O	GWC12MB-A3DNA1A/O	
	Product Code	CB190W0030	CB190W0050	
1	Electric Box Cover Sub-Assy	0260309601	0260309601	1
2	Main Board	30138210	30138210	1
3	High Frequency Transformer	43110030	43110030	1
4	Electric Box 1	20113005	20113005	1
5	Capacitor Box Sub-Assy	01403767	01403767	1
6	Terminal Board	42010255	42010255	1
7	Electric Box Assy	0140398653	0140398653	1
8	Front Grill	01473012	01473012	1
9	Cabinet	0143304601P	0143304601P	1
10	Axial Flow Fan	10333502	10333502	1
11	Fan Motor	15013069	15013069	1
12	Motor Support Spot Welding Sub-assy	0170300701	01703007	1
13	Clapboard Sub-Assy	01233034	01233034	1
14	Compressor and fittings	00205212	00205212	1
15	Chassis Sub-assy	01203614P	01203939P	1
16	Compressor Gasket	76815203	76815203	3
17	Compressor Overload Protector(External)	00180002	00180002	1
18	Inhalation Tube	03523596	03523596	1
19	Discharge Tube	03713494	03713495	1
20	Valve Support	01713041	01713041	1
21	Valve	07100005	07100005	1
22	Valve	07100003	07100003	1
23	Cover of Pass Wire	01413069	01413069	1
24	Cable Cross Plate Sub-assy	02123015	02123015	1
25	Right Side Plate Assy	013030712	013030712	1
26	Temperature Sensor	39000016	3900020801	1
27	Sensor Insert	3900020801	42020063	1
28	Magnet Coil	4300876701	4300876701	1
29	Tube Sensor	390001921	390001921	1
30	Rear Grill	01473014	01473014	1
31	Condenser Assy	01163150	0111329801	1
32	Top Cover Plate	01253443	01253443	1

The data above are subject to change without notice.

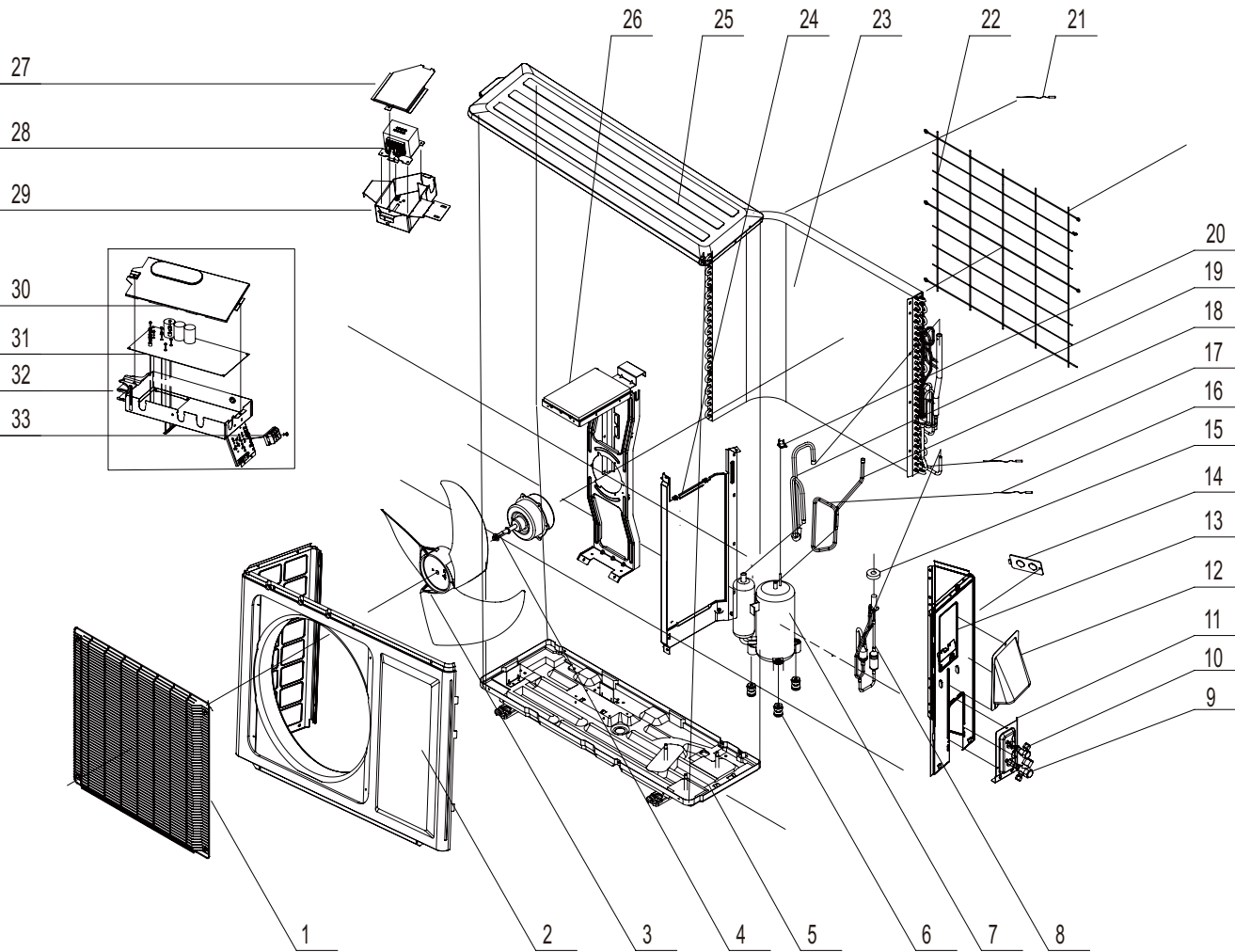
GWH09MA-A3DNA1A/O、GWH12MB-A3DNA1A/O



NO.	Description	Part Code		Qty
		GWH09MA-A3DNA1A/O	GWH12MB-A3DNA1A/O	
	Product Code	CB190W0040	CB190W0060	
1	Front Grill	01473012	01473012	1
2	Cabinet	0143304601P	0143304601P	1
3	Axial Flow Fan	10333502	10333502	1
4	Fan Motor	15013069	15013069	1
5	Chassis Sub-assy	01203614P	01203939P	1
6	Drainage Connector	06123401	06123401	1
7	Compressor Gasket	76815203	76815203	3
8	Compressor and fittings	00205212	00205212	1
9	Electric Expansion Valve Sub-Assy	07133165	07133554	1
10	Valve	07100003	07100003	1
11	Valve	07100005	07100005	1
12	Valve Support	01713041	01713041	1
13	Cable Cross Plate Sub-assy	02123015	02123015	1
14	Right Side Plate Assy	013030713	013030713	1
15	Cover of Pass Wire	01413069	01413069	1
16	Magnet Coil	4300876701	4300876701	1
17	Discharge Sensor	39000016G	39000016G	1
18	Tube Sensor	390001921	390001921	1
19	4-Way Valve Assy	03023794	03123315	1
20	Magnet Coil	4300040021	4300040021	1
21	Compressor Overload Protector(External)	00180002	00180002	1
22	Temperature Sensor	3900020801	3900020801	1
23	Rear Grill	01473014	01473014	1
24	Condenser Assy	01113405	01113298	1
25	Clapboard Sub-Assy	01233034	01233034	1
26	Top Cover Plate	01253443	01253443	1
27	Motor Support Spot Welding Sub-assy	0170300701	01703007	1
28	Electric Box Cover Sub-Assy	0260309601	0260309601	1
29	Main Board	30138211	30138211	1
30	Electric Box Assy	0140398651	0140398651	1
31	Terminal Board	42010255	42010255	1

The data above are subject to change without notice.

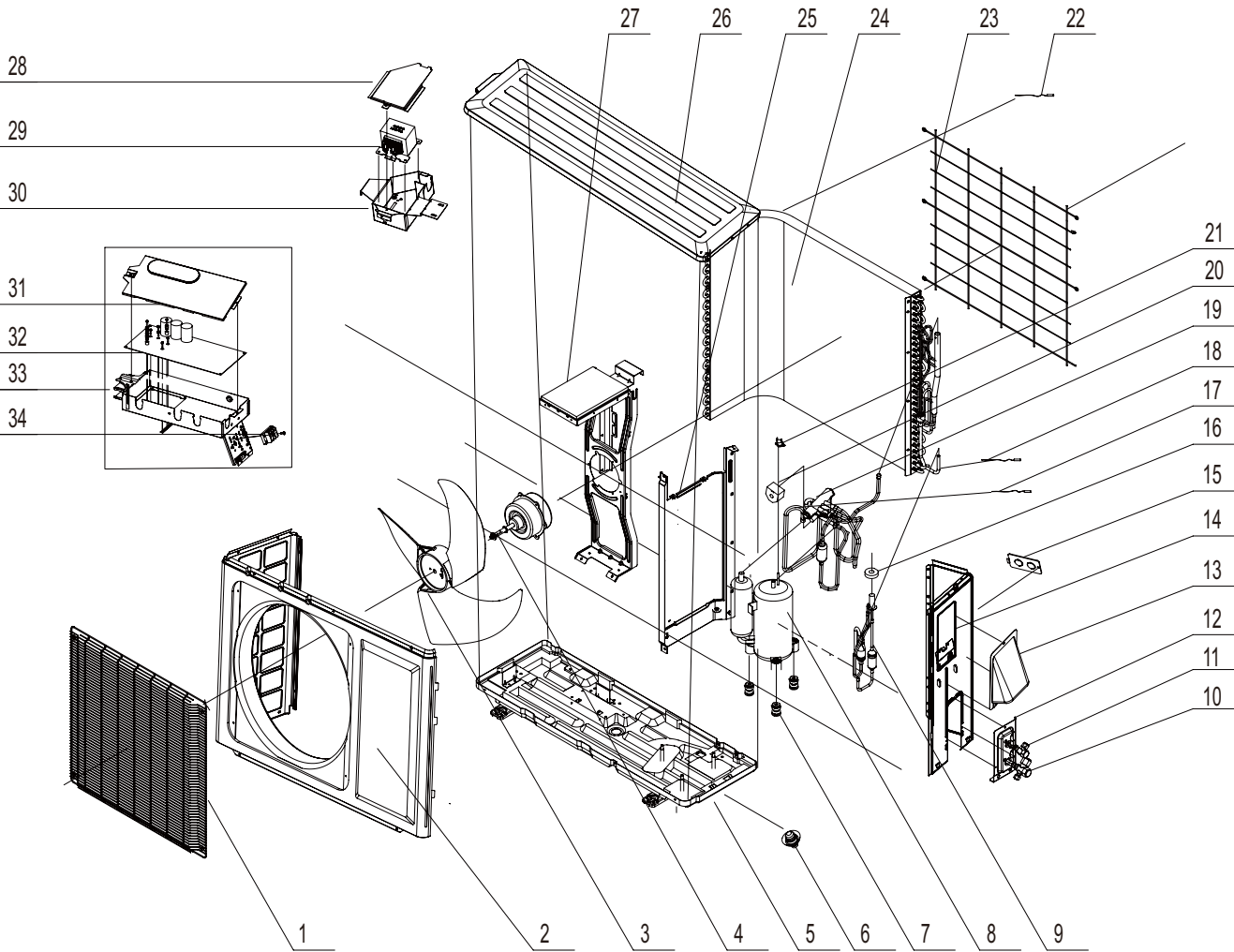
GWC12MB-D3DNA1A/O



NO.	Description	Part Code	Qty
		GWC12MB-D3DNA1A/O	
	Product Code	CB190W0090	
1	Front Grill	01473012	1
2	Cabinet	0143304601P	1
3	Axial Flow Fan	10333502	1
4	Fan Motor	15013069	1
5	Chassis Sub-assy	01203939P	1
6	Compressor Gasket	76815203	3
7	Compressor and fittings	00205212	1
8	Electric Expansion Valve Sub-Assy	07133554	1
9	Valve	07100003	1
10	Valve	07100005	1
11	Valve Support	01713041	1
12	Cable Cross Plate Sub-assy	02123015	1
13	Right Side Plate Assy	013030712	1
14	Cover of Pass Wire	01413069	1
15	Magnet Coil	4300876701	1
16	Discharge Sensor	39000016G	1
17	Tube Sensor	390001921	1
18	Inhalation Tube	03523596	1
19	Discharge Tube	03713495	1
20	Compressor Overload Protector(External)	00180002	1
21	Temperature Sensor	3900020801	1
22	Rear Grill	01473014	1
23	Condenser Assy	0111329801	1
24	Clapboard Sub-Assy	01233034	1
25	Top Cover Plate	01253443	1
26	Motor Support Spot Welding Sub-assy	01703007	1
27	Cover of Reactor Box	01413029	1
28	Reactor	43130178	1
29	Reactor Sub-assy	01403616	1
30	Electric Box Cover Sub-Assy	0260309601	1
31	Main Board	30138208	1
32	Electric Box Assy	0140398646	1
33	Terminal Board	42010255	1

The data above are subject to change without notice.

GWH12MB-D3DNA1A/O



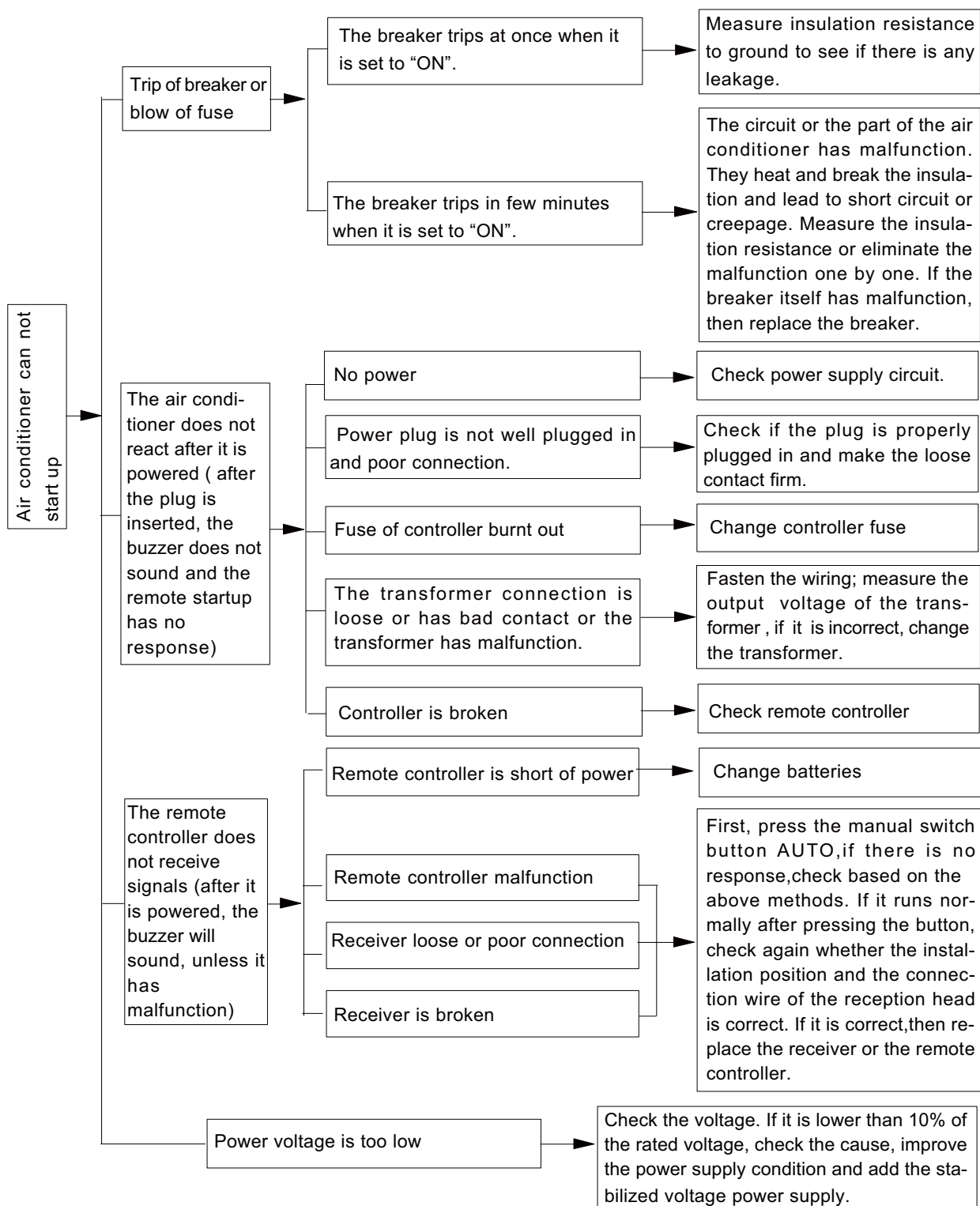
NO.	Description	Part Code	Qty
		GWH12MB-D3DNA1A/O	
		Product Code	
		CB190W0100	
1	Front Grill	01473012	1
2	Cabinet	0143304601P	1
3	Axial Flow Fan	10333502	1
4	Fan Motor	15013069	1
5	Chassis Sub-assy	01203939P	1
6	Drainage Connector	06123401	1
7	Compressor Gasket	76815203	3
8	Compressor and fittings	00205212	1
9	Electric Expansion Valve Sub-Assy	07133554	1
10	Valve	07100003	1
11	Valve	07100005	1
12	Valve Support	01713041	1
13	Cable Cross Plate Sub-assy	02123015	1
14	Right Side Plate Assy	013030712	1
15	Cover of Pass Wire	01413069	1
16	Magnet Coil	4300876701	1
17	Discharge Sensor	39000016G	1
18	Tube Sensor	390001921	1
19	4-Way Valve Assy	0312318201	1
20	Magnet Coil	430004002	1
21	Compressor Overload Protector(External)	00180002	1
22	Temperature Sensor	3900020801	1
23	Rear Grill	01473014	1
24	Condenser Assy	01113298	1
25	Clapboard Sub-Assy	01233034	1
26	Top Cover Plate	01253443	1
27	Motor Support Spot Welding Sub-assy	01703007	1
28	Cover of Reactor Box	01413029	1
29	Reactor	43130178	1
30	Reactor Sub-assy	01403616	1
31	Electric Box Cover Sub-Assy	0260309601	1
32	Main Board	30138209	1
33	Electric Box Assy	0140398645	1
34	Terminal Board	42010255	1

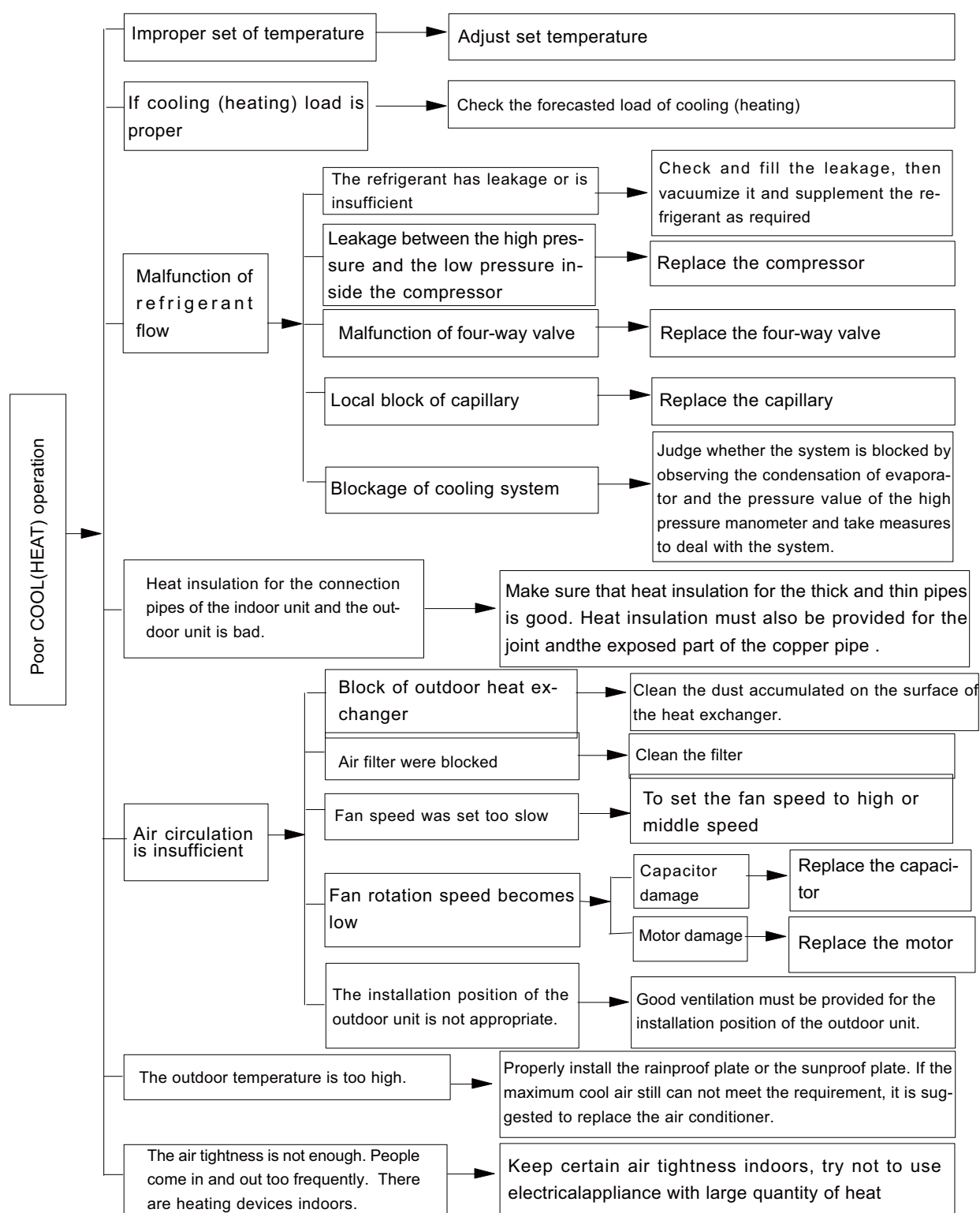
The data above are subject to change without notice.

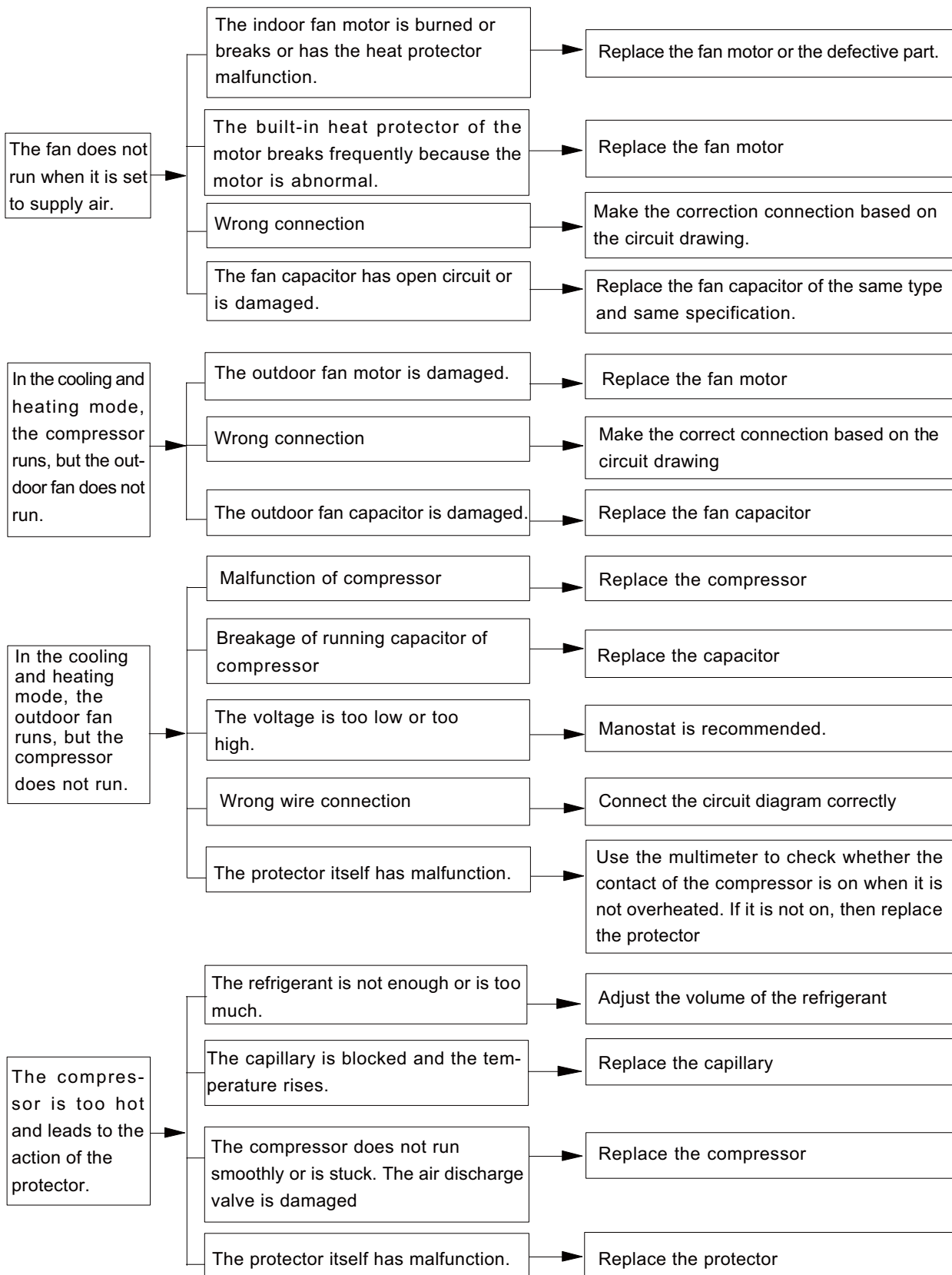
9. Troubleshooting

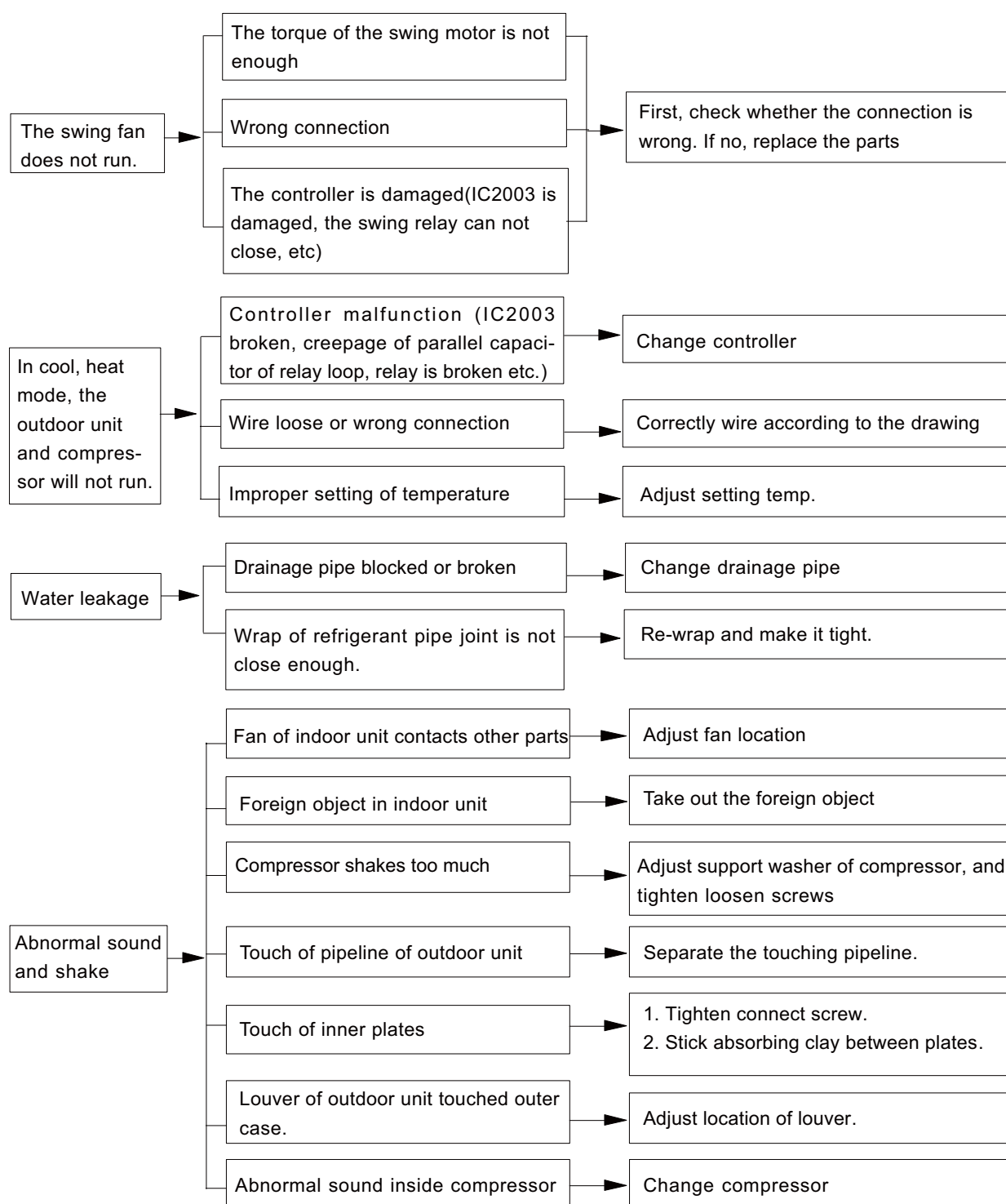
9.1 Malfunction Analysis

Note: When replacing the controller, make sure insert the wire jumper into the new controller, otherwise the unit will display C5







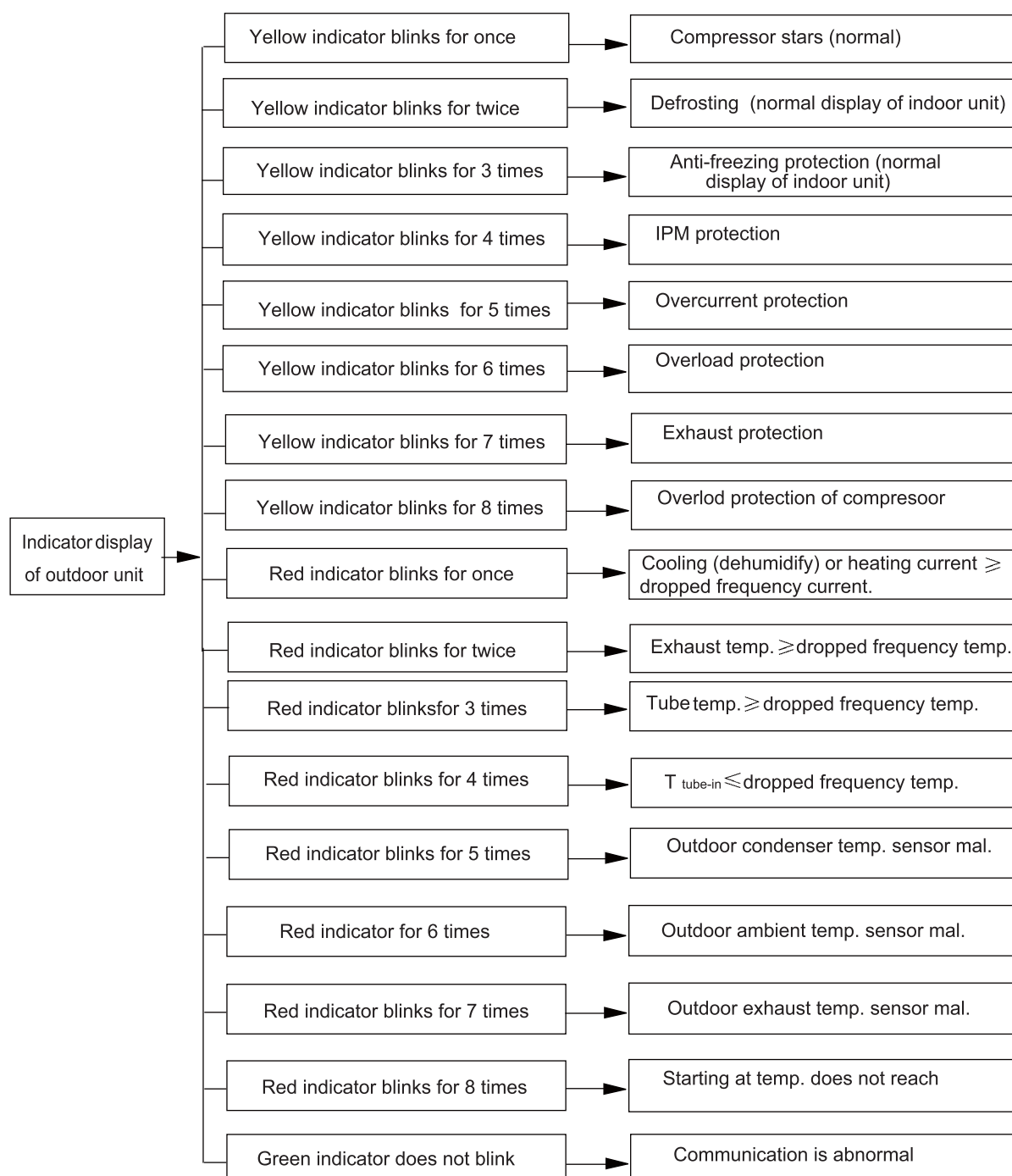


9.2 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

Name of malfunction	Display of indoor unit	state of the lamps of outdoor unit PCB			Reasons
	ERROR CODE	GREEN-LED2	RED-LED3	YELLOW-LED4	
Stop for anti-freezing protection of indoor-unit	E2		blink-4 times	blink-3times	refrigerant leakage、indoor unit air flow blocked up、filter duty
Stop for exhaust protection	E4			blink-7 times	less refrigerant、capillary blocked up、ambient temperature is abominable
Stop for low voltage protection	E5			blink-5 times	low、voltage、ambient temperature is abominable
Stop for communication malfunction	E6	do not blink			communication line failure、main PCB failure、interfere souce、connect line wrong
Stop for compressor overload protection	H3			blink-8 times	compressor shell over heat、lessrefrigerant、capillary blocked up
Overload protection	H4			blink-6 times	ambient temperature is abominable、heat exchanger blocked up
Stop for IPModule protection	H5			blink-4 times	IPM mouldel over heat、low voltage、silica gel
DC motor (indoor unit) does not operate	H6				DC motor control terminal does not contact well; Blade does not rotate fluently due to incorrect installation; motor or control panel is damaged
Indoor ambient temperature sensor malfunction	F1				terminal connect not reliable、temperature sensor maifunction
Indoor tube temperature sensor malfunction	F2				terminal connect not reliable、temperature sensor maifunction
Outdoor ambient temperature sensor malfunction	F3		blink-6 times		terminal connect not reliable、temperature sensor maifunction
Outdoor tube temperature sensor malfunction	F4		blink-5 times		terminal connect not reliable、temperature sensor maifunction
Outdoor exhaust temperature sensor malfunction	F5		blink-7 times		terminal connect not reliable、temperature sensor maifunction
Automatic defrosting	H1			blink-2 times	H1is not error code,it is noemal operation. Just heat pump has this fuction
REMARK:	1.Error codes only can be seen in the type which has the temperature display pcb.maybe some type has not this function,the lamps on the outdoor pcb are avaiable 2.Normally,the communication between indoor unit and outdoor unit is successful, the gree lam				

9.3 Malfunction Display

If malfunction occurs, corresponding code will display and the unit will resume normal until protection or malfunction disappears.



Analysis or processing of some of the malfunction display:

1. Compressor discharge protection

Possible reasons: shortage of refrigerant; blockage of air filter; poor ventilation or air flow short pass for condenser; the system has noncondensing gas (such as air, water etc.); blockage of capillary assy (including filter); leakage inside four-way valve causes incorrect operation; malfunction of compressor; malfunction of protection relay; malfunction of discharge sensor; outdoor temperature too high.

Processing method: refer to the malfunction analysis in the above section.

2. Low voltage overcurrent protection

Possible reason: Sudden drop of supply voltage.

3. Communication malfunction

Processing method: Check if communication signal cable is connected reliably.

4. Sensor open or short circuit

Processing method: Check whether sensor is normal, connected with the corresponding position on the controller and if damage of lead wire is found.

5. Compressor overload protection

Possible reasons: insufficient or too much refrigerant; blockage of capillary and increase of suction temp.; improper running of compressor, burning in or stuck of bearing, damage of discharge valve; malfunction of protector.

Processing method: adjust refrigerant amount; replace the capillary; replace the compressor; use universal meter to check if the controller of compressor is fine when it is not overheated, if not replace the protector.

6. System malfunction

i.e. overload protection. When tube temperature (Check the temperature of outdoor heat exchanger when cooling and check the temperature of indoor heat exchanger when heating) is too high, protection will be activated.

Possible reasons: Outdoor temperature is too high when cooling; insufficient outdoor air circulation; refrigerant flow malfunction.

please refer to the malfunction analysis in the previous section for handling method.

7. IPM module protection

Processing method: Once the module malfunction happens, if it persists for a long time and can not be self-canceled, cut off the power and turn off the unit, and then re-energize the unit again after about 10 min. After repeating the procedure for several times, if the malfunction still exists, replace the module.

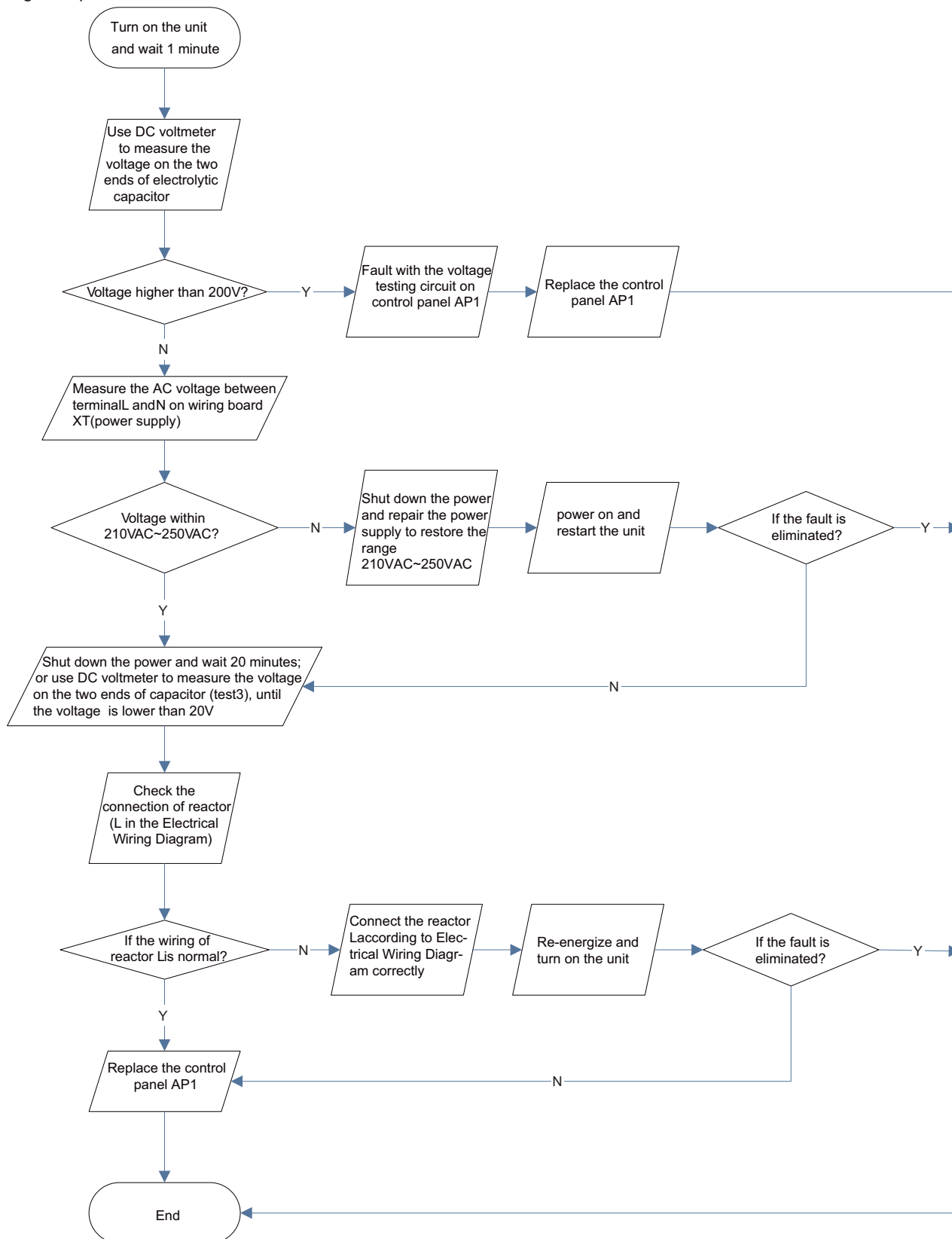
9.4 How to Check Simply the Main Part

(1) Capacitor charge fault (Fault with outdoor unit) (AP1 below refers to the outdoor control panel)

Main Check Points:

- Use AC voltmeter to check if the voltage between terminal L and N on the wiring board is within 210VAC~240VAC.
- Is the reactor (L) correctly connected? Is the connection loose or fallen? Is the reactor (L) damaged?

Fault diagnosis process:

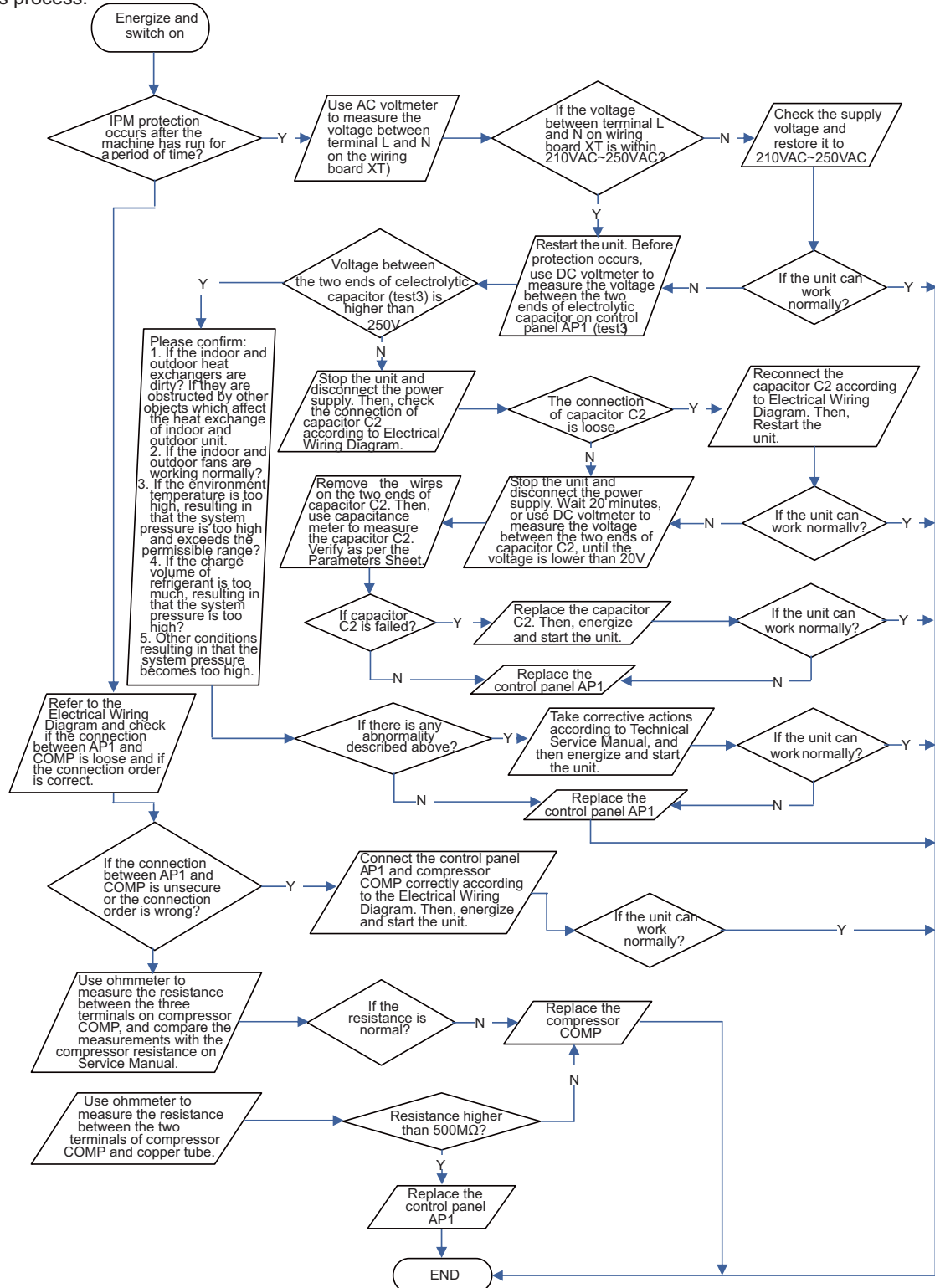


(2) IPM Protection, Out-of-step Fault, Compressor Phase Overcurrent (AP1 below refers to the outdoor control panel)

Main check points:

- Is the connection between control panel AP1 and compressor COMP secure? Loose? Is the connection in correct order?
- Is the voltage input of the machine within normal range? (Use AC voltmeter to measure the voltage between terminal L and N on the wiring board XT)
- Is the compressor coil resistance normal? Is the insulation of compressor coil against the copper tube in good condition?
- Is the working load of the machine too high? Is the radiation good?
- Is the charge volume of refrigerant correct?

Fault diagnosis process:

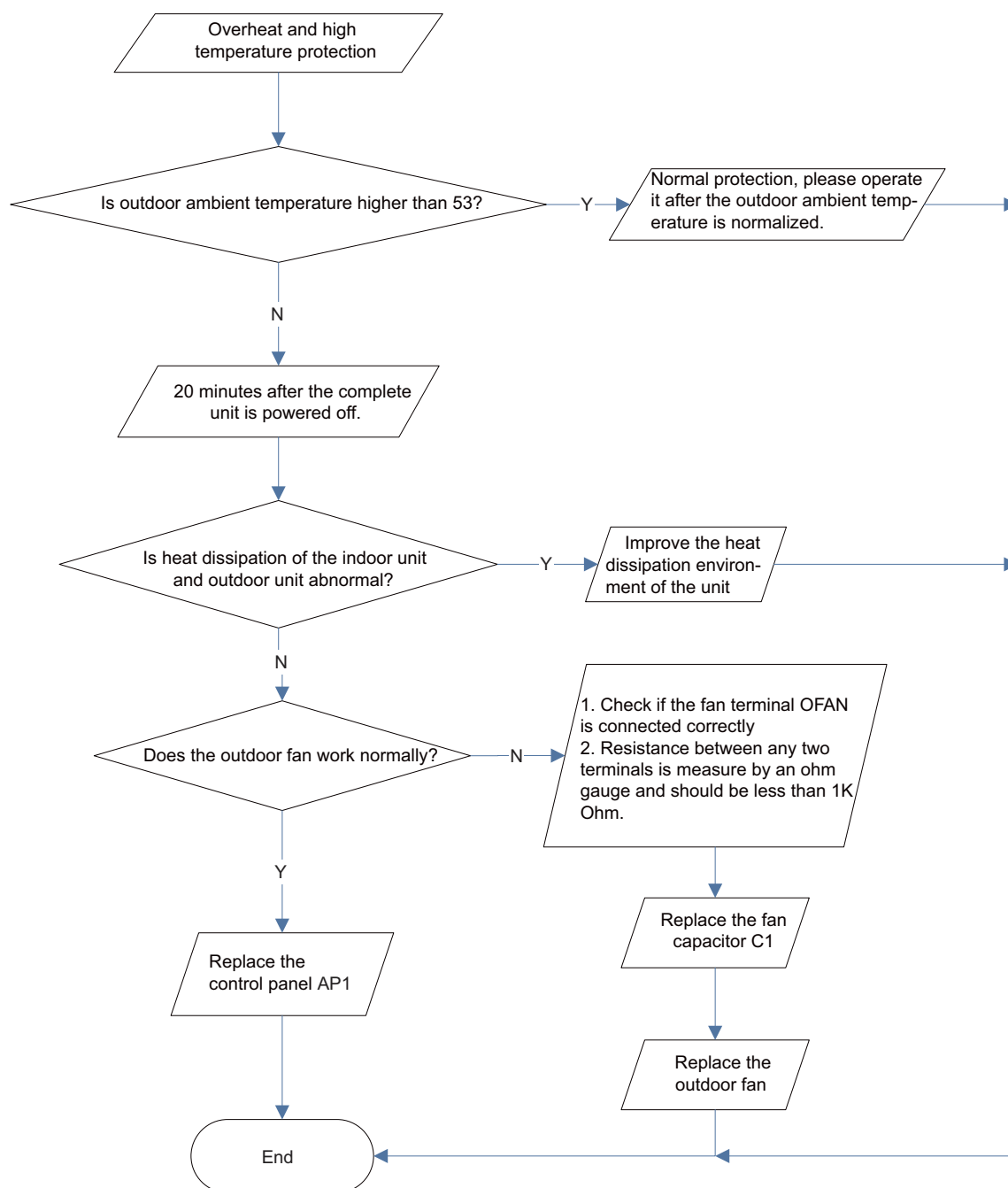


(3)High temperature and overload protection diagnosis (AP1 hereinafter refers to the control board of the outdoor unit)

Mainly detect:

- Is outdoor ambient temperature in normal range?
- Are the outdoor and indoor fans operating normally?
- Is the heat dissipation environment inside and outside the unit good?

Fault diagnosis process:

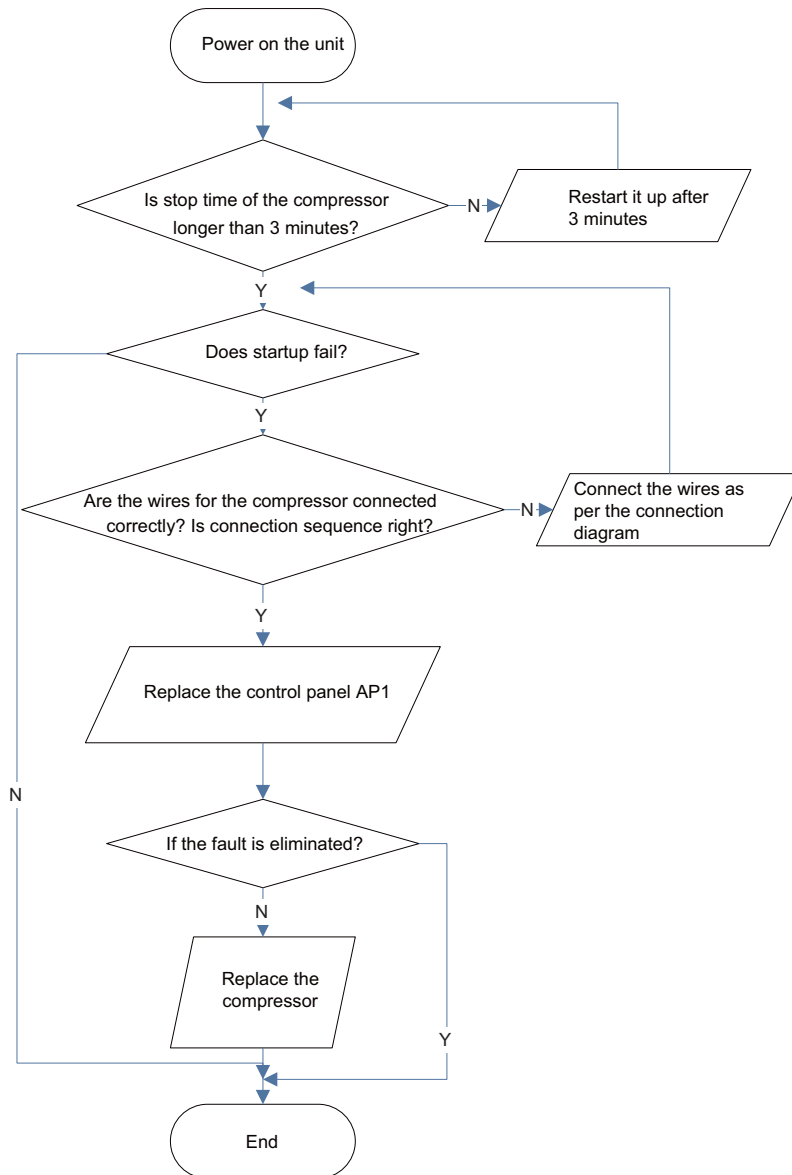


(4) Start-up failure (following AP1 for outdoor unit control board)

Mainly detect:

- Whether the compressor wiring is connected correct?
- Is compressor broken?
- Is time for compressor stopping enough?

Fault diagnosis process:

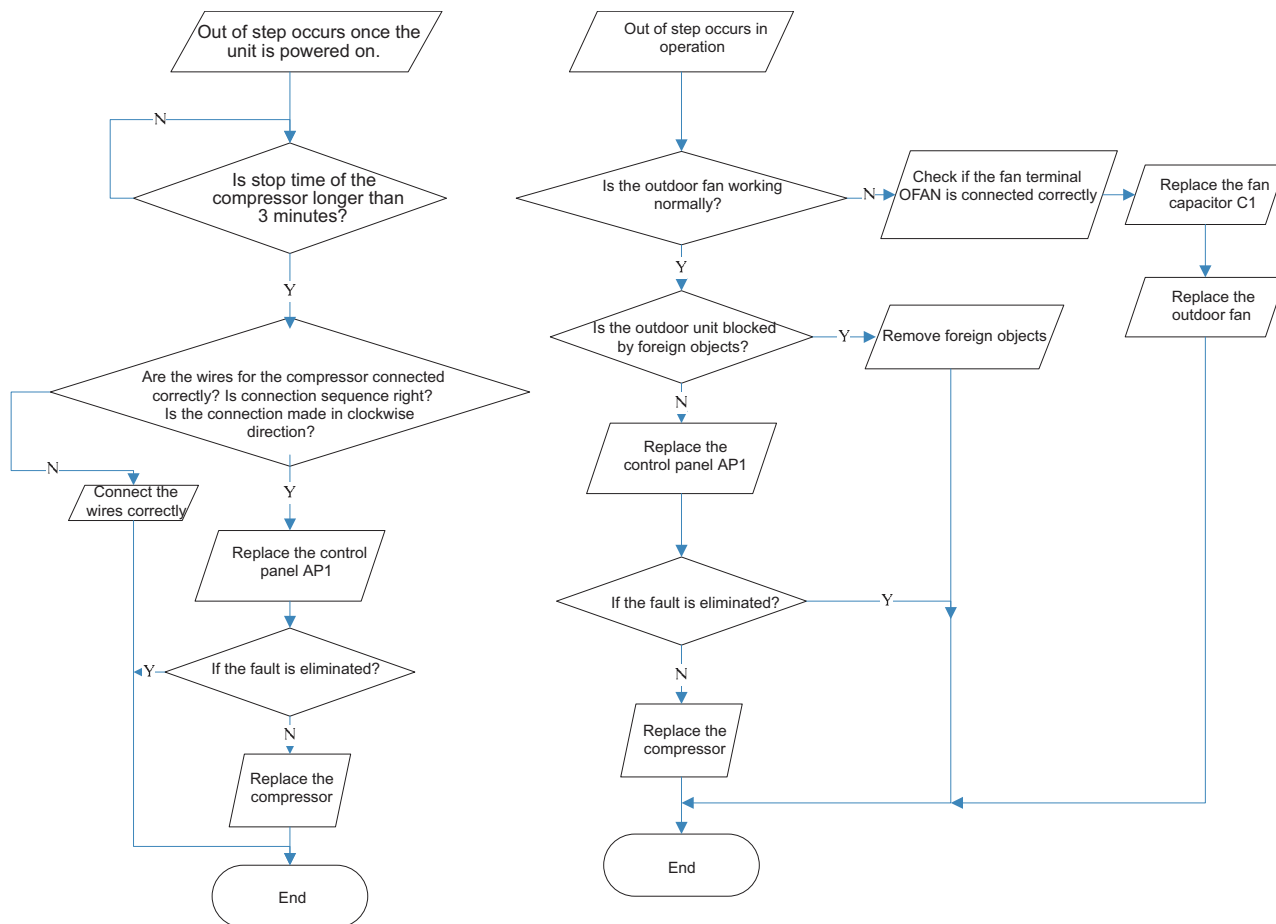


(5) Out of step diagnosis for the compressor (AP1 hereinafter refers to the control board of the outdoor unit)

Mainly detect:

- Is the system pressure too high?
- Is the input voltage too low?

Fault diagnosis process:

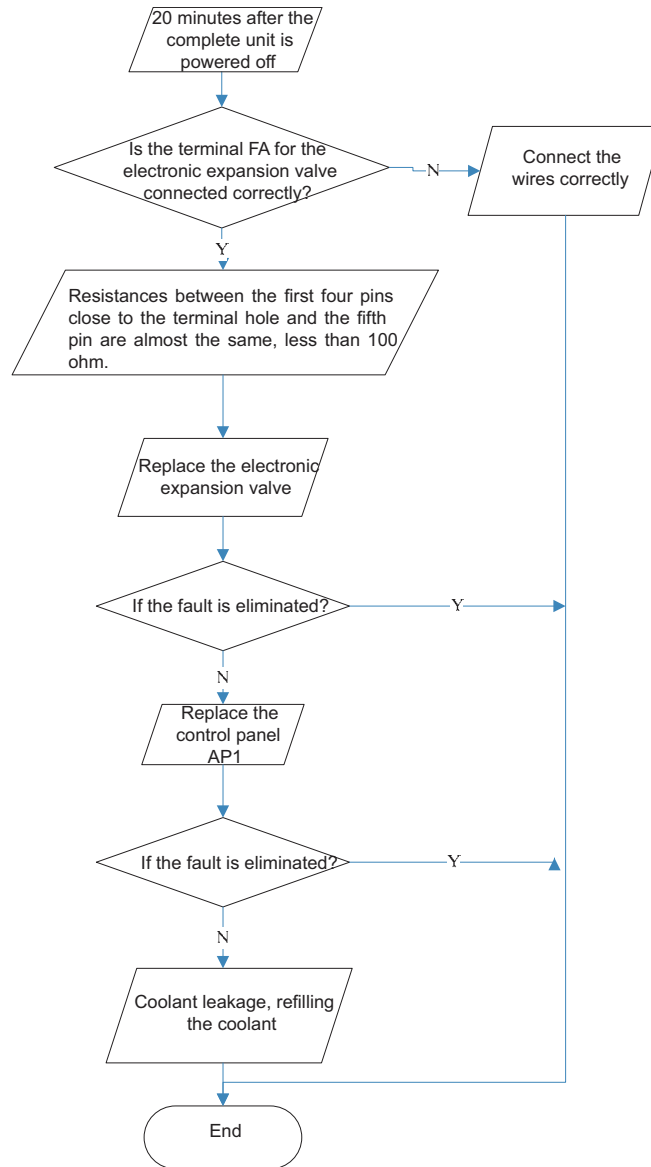


(6) Overload and air exhaust malfunction diagnosis (following AP1 for outdoor unit control board)

Mainly detect:

- Is the PMV connected well or not? Is PMV damaged?
- Is refrigerant leaked?

Fault diagnosis process:

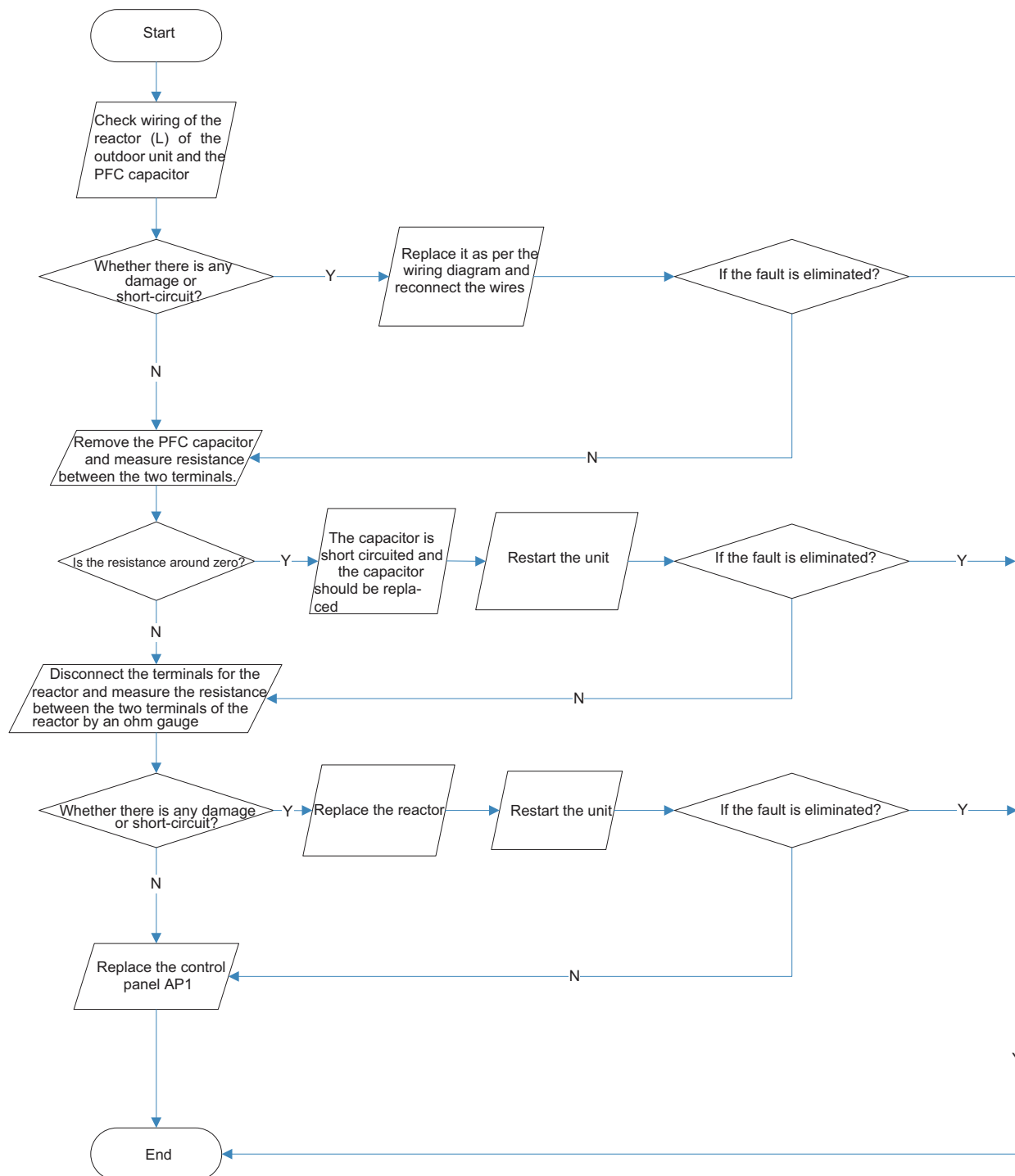


(7)Power factor correct or (PFC) fault (a fault of outdoor unit) (AP1 hereinafter refers to the control board of the outdoor unit)

Mainly detect:

- Check if the reactor (L) of the outdoor unit and the PFC capacitor are broken

Fault diagnosis process:

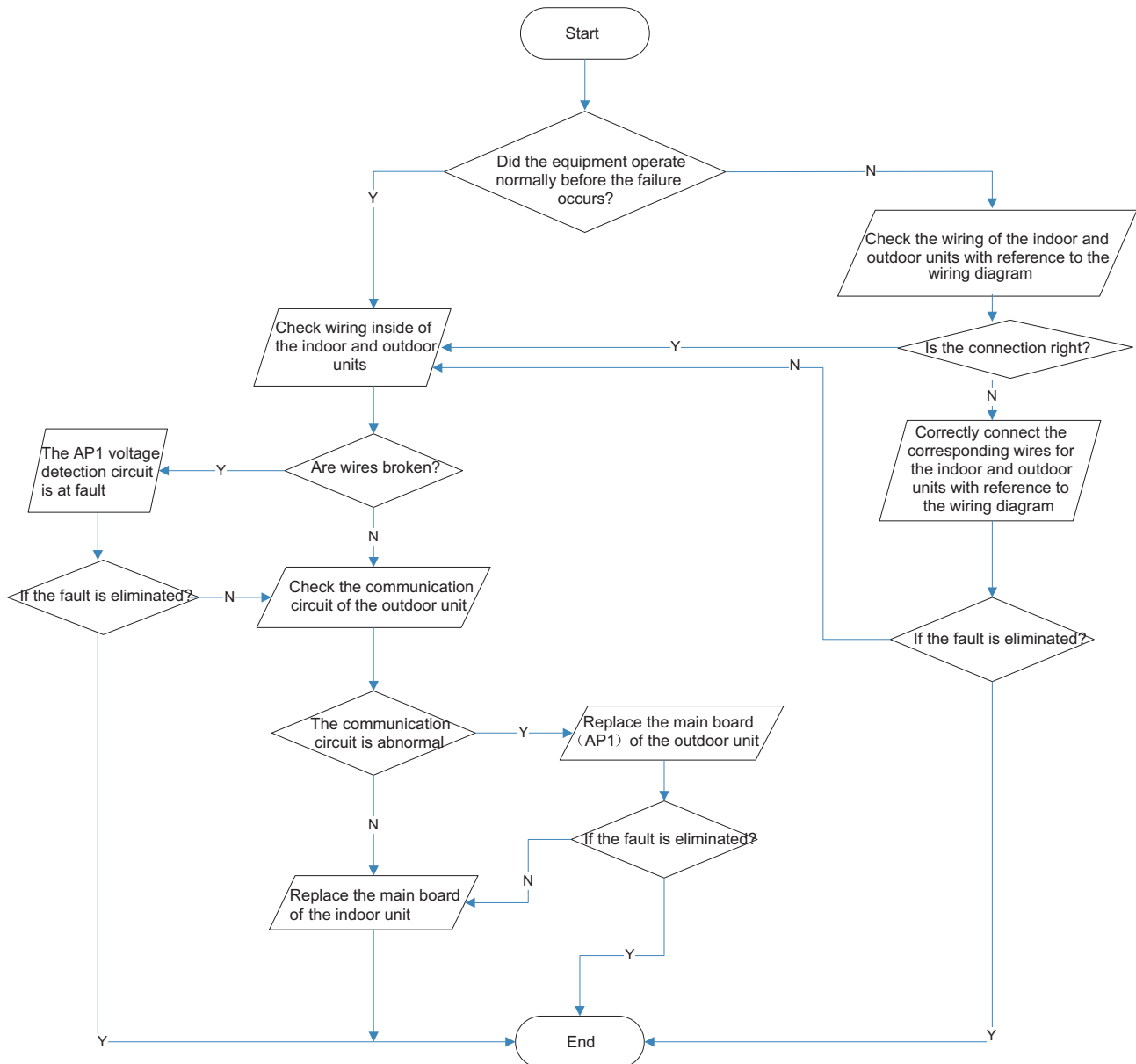


(8) Communication malfunction: (following AP1 for outdoor unit control board)

Mainly detect:

- Is there any damage for the indoor unit mainboard communication circuit? Is communication circuit damaged?
- Detect the indoor and outdoor units connection wire and indoor and outdoor units inside wiring is connect well or not, if is there any damage?

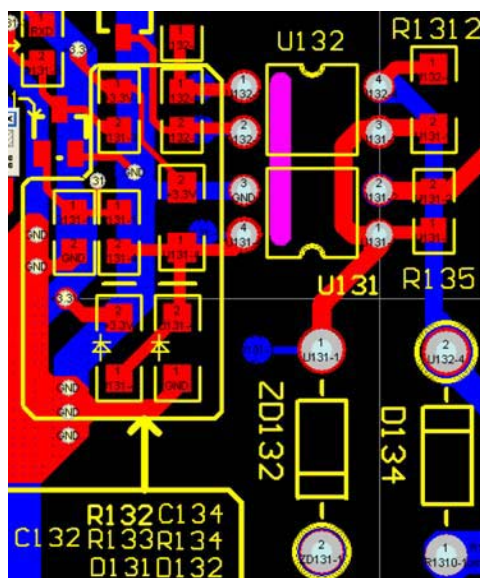
Fault diagnosis process:



(9) Flow chart for outdoor communication circuit detecting:

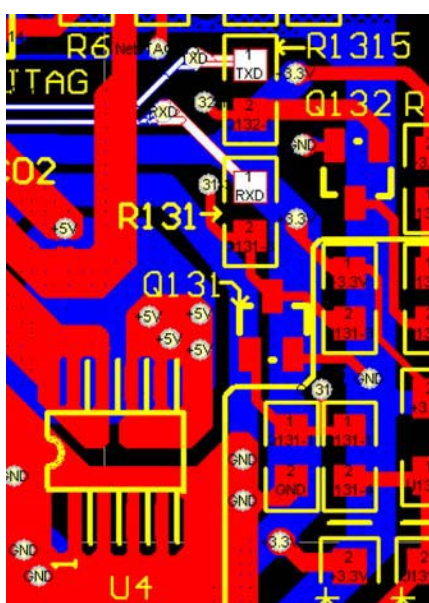
(1) Test the voltage between N point of wiring board and communication cable with universal meter. The voltage shall be variable. Otherwise, it might be malfunction of mainboard of indoor unit, or malfunction of mainboard of outdoor unit, or wrong wire connection of indoor and outdoor unit. Please ensure that there is no malfunction of mainboard of indoor unit, or wrong wire connection of indoor and outdoor unit. After removing the malfunction of indoor unit, remove the malfunction of outdoor unit.

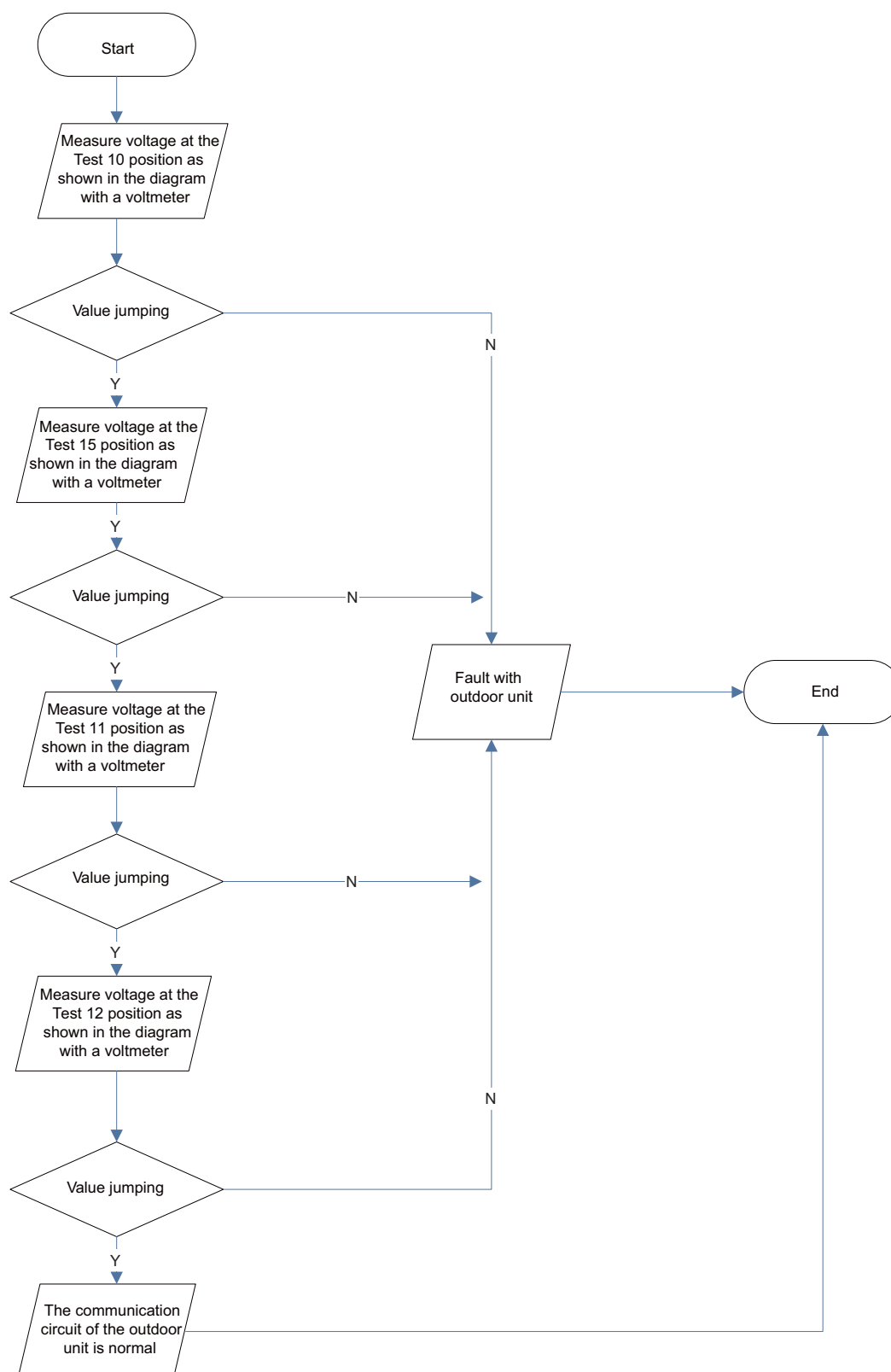
(2) Test the voltage of pin 1 and pin 2 of U132 with universal meter (voltage of both sides of R135). The voltage should be variable. (Test 10) Test the voltage of pin 3 and pin 4 of U132 with universal meter (voltage of both sides of R1312). The voltage should be variable. (Test 15) Otherwise, there is malfunction of mainboard of outdoor unit.



(3) Test the voltage of pin 3 and pin 4 of U131 with universal meter (voltage of both sides of R134). The voltage should be variable. (test 11) Test the voltage of pin 1 and pin 2 of U132 with universal meter (voltage of both sides of C134). The voltage should be variable. (test 12) Otherwise, there is malfunction of mainboard of outdoor unit.

(4) Test the voltage between pin 1 of R135 (white) and pin 1 of U4. The voltage should be variable. Test voltage between pin1 of R131 (white) and pin 1 of U4 with universal meter. The voltage should be variable. Otherwise, there is malfunction of mainboard of outdoor unit.





Appendix

Appendix 1: Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)							
Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)
-2.2	138.1		68	18.75		138.2	3.848
-0.4	128.6		69.8	17.93		140	3.711
1.4	121.6		71.6	17.14		141.8	3.579
3.2	115		73.4	16.39		143.6	3.454
5	108.7		75.2	15.68		145.4	3.333
6.8	102.9		77	15		147.2	3.217
8.6	97.4		78.8	14.36		149	3.105
10.4	92.22		80.6	13.74		150.8	2.998
12.2	87.35		82.4	13.16		152.6	2.896
14	82.75		84.2	12.6		154.4	2.797
15.8	78.43		86	12.07		156.2	2.702
17.6	74.35		87.8	11.57		158	2.611
19.4	70.5		89.6	11.09		159.8	2.523
21.2	66.88		91.4	10.63		161.6	2.439
23	63.46		93.2	10.2		163.4	2.358
24.8	60.23		95	9.779		165.2	2.28
26.6	57.18		96.8	9.382		167	2.206
28.4	54.31		98.6	9.003		168.8	2.133
30.2	51.59		100.4	8.642		170.6	2.064
32	49.02		102.2	8.297		172.4	1.997
33.8	46.6		104	7.967		174.2	1.933
35.6	44.31		105.8	7.653		176	1.871
37.4	42.14		107.6	7.352		177.8	1.811
39.2	40.09		109.4	7.065		179.6	1.754
41	38.15		111.2	6.791		181.4	1.699
42.8	36.32		113	6.529		183.2	1.645
44.6	34.58		114.8	6.278		185	1.594
46.4	32.94		116.6	6.038		186.8	1.544
48.2	31.38		118.4	5.809		188.6	1.497
50	29.9		120.2	5.589		190.4	1.451
51.8	28.51		122	5.379		192.2	1.408
53.6	27.18		123.8	5.197		194	1.363
55.4	25.92		125.6	4.986		195.8	1.322
57.2	24.73		127.4	4.802		197.6	1.282
59	23.6		129.2	4.625		199.4	1.244
60.8	22.53		131	4.456		201.2	1.207
62.6	21.51		132.8	4.294		203	1.171
64.4	20.54		134.6	4.139		204.8	1.136
66.2	19.63		136.4	3.99		206.6	1.103
						208.4	1.071
						210.2	1.039
						212	1.009
						213.8	0.98
						215.6	0.952
						217.4	0.925
						219.2	0.898
						221	0.873
						222.8	0.848
						224.6	0.825
						226.4	0.802
						228.2	0.779
						230	0.758
						231.8	0.737
						233.6	0.717
						235.4	0.697
						237.2	0.678
						239	0.66
						240.8	0.642
						242.6	0.625
						244.4	0.608
						246.2	0.592
						248	0.577
						249.8	0.561
						251.6	0.547
						253.4	0.532
						255.2	0.519
						257	0.505
						258.8	0.492
						260.6	0.48
						262.4	0.467
						264.2	0.456
						266	0.444
						267.8	0.433
						269.6	0.422
						271.4	0.412
						273.2	0.401
						275	0.391
						276.8	0.382

Appendix 2: Resistance Table of Outdoor and Indoor Tube Temperature Sensors(20K)								
Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)		Temp.(°F)	Resistance(kΩ)	
-2.2	181.4		68	25.01		138.2	5.13	
-0.4	171.4		69.8	23.9		140	4.948	
1.4	162.1		71.6	22.85		141.8	4.773	
3.2	153.3		73.4	21.85		143.6	4.605	
5	145		75.2	20.9		145.4	4.443	
6.8	137.2		77	20		147.2	4.289	
8.6	129.9		78.8	19.14		149	4.14	
10.4	123		80.6	18.13		150.8	3.998	
12.2	116.5		82.4	17.55		152.6	3.861	
14	110.3		84.2	16.8		154.4	3.729	
15.8	104.6		86	16.1		156.2	3.603	
17.6	99.13		87.8	15.43		158	3.481	
19.4	94		89.6	14.79		159.8	3.364	
21.2	89.17		91.4	14.18		161.6	3.252	
23	84.61		93.2	13.59		163.4	3.144	
24.8	80.31		95	13.04		165.2	3.04	
26.6	76.24		96.8	12.51		167	2.94	
28.4	72.41		98.6	12		168.8	2.844	
30.2	68.79		100.4	11.52		170.6	2.752	
32	65.37		102.2	11.06		172.4	2.663	
33.8	62.13		104	10.62		174.2	2.577	
35.6	59.08		105.8	10.2		176	2.495	
37.4	56.19		107.6	9.803		177.8	2.415	
39.2	53.46		109.4	9.42		179.6	2.339	
41	50.87		111.2	9.054		181.4	2.265	
42.8	48.42		113	8.705		183.2	2.194	
44.6	46.11		114.8	8.37		185	2.125	
46.4	43.92		116.6	8.051		186.8	2.059	
48.2	41.84		118.4	7.745		188.6	1.996	
50	39.87		120.2	7.453		190.4	1.934	
51.8	38.01		122	7.173		192.2	1.875	
53.6	36.24		123.8	6.905		194	1.818	
55.4	34.57		125.6	6.648		195.8	1.736	
57.2	32.98		127.4	6.403		197.6	1.71	
59	31.47		129.2	6.167		199.4	1.658	
60.8	30.04		131	5.942		201.2	1.609	
62.6	28.68		132.8	5.726		203	1.561	
64.4	27.39		134.6	5.519		204.8	1.515	
66.2	26.17		136.4	5.32		206.6	1.47	

Appendix 3: Resistance Table of Outdoor Discharge Temperature Sensor(50K)

Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)	Temp.(°F)	Resistance(kΩ)
-20.2	853.5	50	98	120.2	18.34	190.4	4.754
-18.4	799.8	51.8	93.42	122	17.65	192.2	4.609
-16.6	750	53.6	89.07	123.8	16.99	194	4.469
-14.8	703.8	55.4	84.95	125.6	16.36	195.8	4.334
-13	660.8	57.2	81.05	127.4	15.75	197.6	4.204
-11.2	620.8	59	77.35	129.2	15.17	199.4	4.079
-9.4	580.6	60.8	73.83	131	14.62	201.2	3.958
-7.6	548.9	62.6	70.5	132.8	14.09	203	3.841
-5.8	516.6	64.4	67.34	134.6	13.58	204.8	3.728
-4	486.5	66.2	64.33	136.4	13.09	206.6	3.619
-2.2	458.3	68	61.48	138.2	12.62	208.4	3.514
-0.4	432	69.8	58.77	140	12.17	210.2	3.413
1.4	407.4	71.6	56.19	141.8	11.74	212	3.315
3.2	384.5	73.4	53.74	143.6	11.32	213.8	3.22
5	362.9	75.2	51.41	145.4	10.93	215.6	3.129
6.8	342.8	77	49.19	147.2	10.54	217.4	3.04
8.6	323.9	78.8	47.08	149	10.18	219.2	2.955
10.4	306.2	80.6	45.07	150.8	9.827	221	2.872
12.2	289.6	82.4	43.16	152.6	9.489	222.8	2.792
14	274	84.2	41.34	154.4	9.165	224.6	2.715
15.8	259.3	86	39.61	156.2	8.854	226.4	2.64
17.6	245.6	87.8	37.96	158	8.555	228.2	2.568
19.4	232.6	89.6	36.38	159.8	8.268	230	2.498
21.2	220.5	91.4	34.88	161.6	7.991	231.8	2.431
23	209	93.2	33.45	163.4	7.726	233.6	2.365
24.8	198.3	95	32.09	165.2	7.47	235.4	2.302
26.6	199.1	96.8	30.79	167	7.224	237.2	2.241
28.4	178.5	98.6	29.54	168.8	6.998	239	2.182
30.2	169.5	100.4	28.36	170.6	6.761	240.8	2.124
32	161	102.2	27.23	172.4	6.542	242.6	2.069
33.8	153	104	26.15	174.2	6.331	244.4	2.015
35.6	145.4	105.8	25.11	176	6.129	246.2	1.963
37.4	138.3	107.6	24.13	177.8	5.933	248	1.912
39.2	131.5	109.4	23.19	179.6	5.746	249.8	1.863
41	125.1	111.2	22.29	181.4	5.565	251.6	1.816
42.8	119.1	113	21.43	183.2	5.39	253.4	1.77
44.6	113.4	114.8	20.6	185	5.222	255.2	1.725
46.4	108	116.6	19.81	186.8	5.06	257	1.682
48.2	102.8	118.4	19.06	188.6	4.904	258.8	1.64

Note: The information above is for reference only.

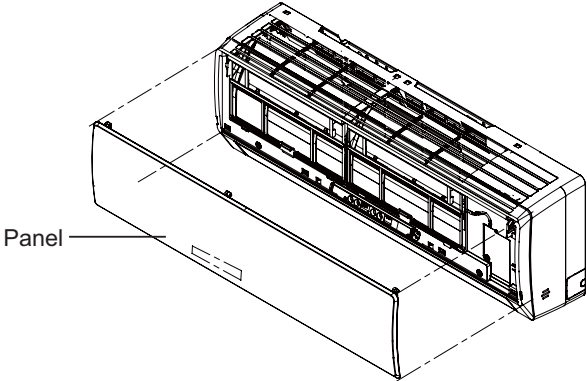
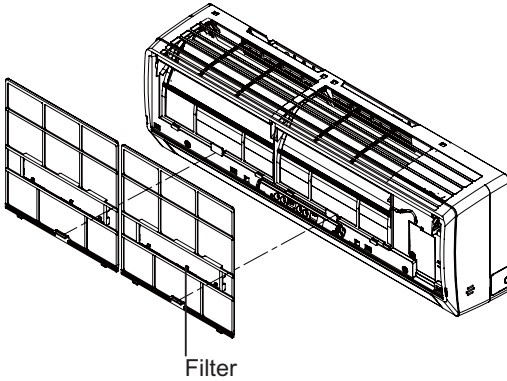
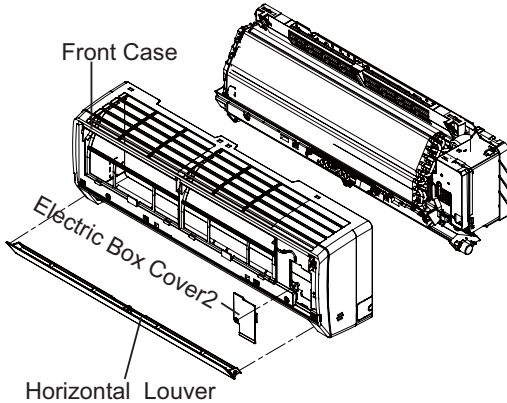
10. Removal Procedure

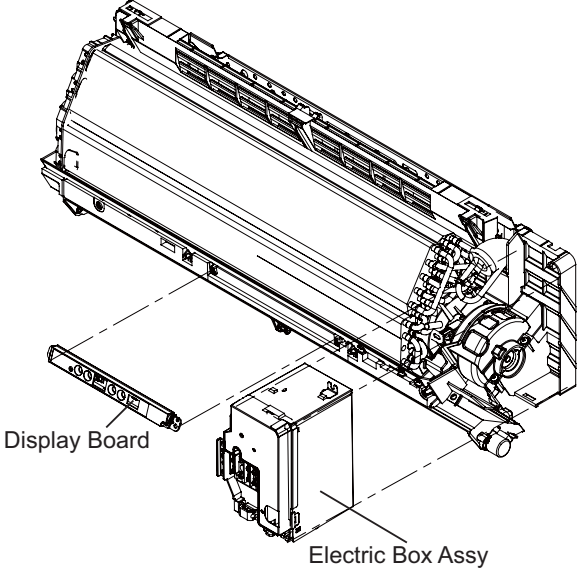
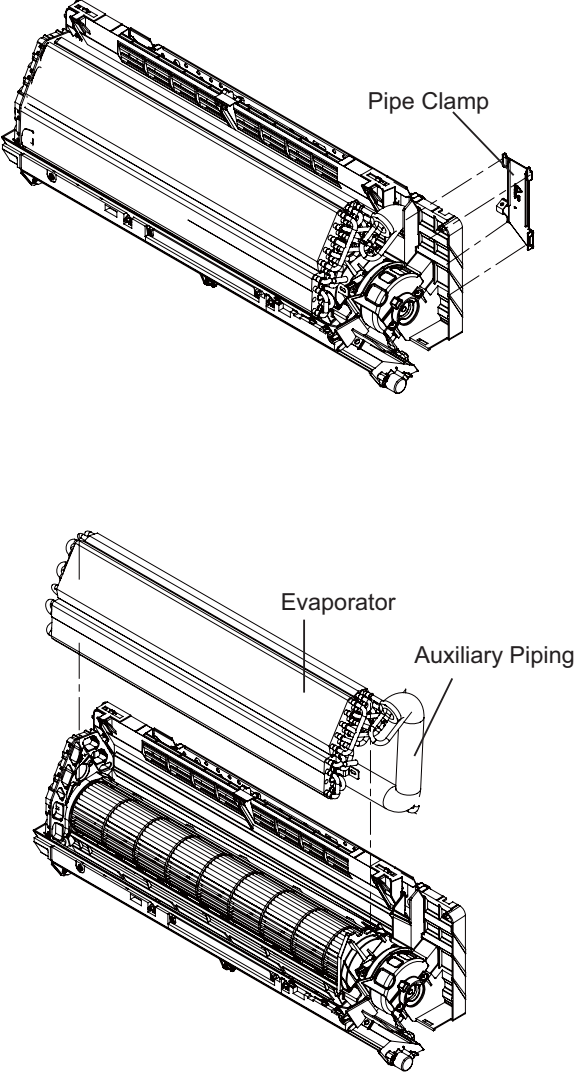
10.1 Removal Procedure of Indoor Unit

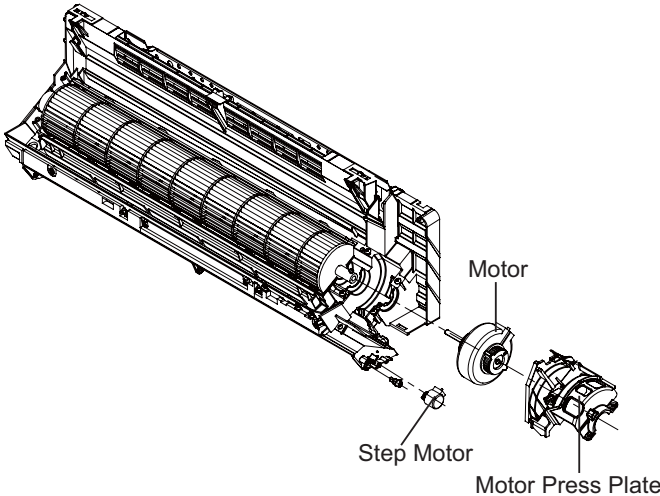
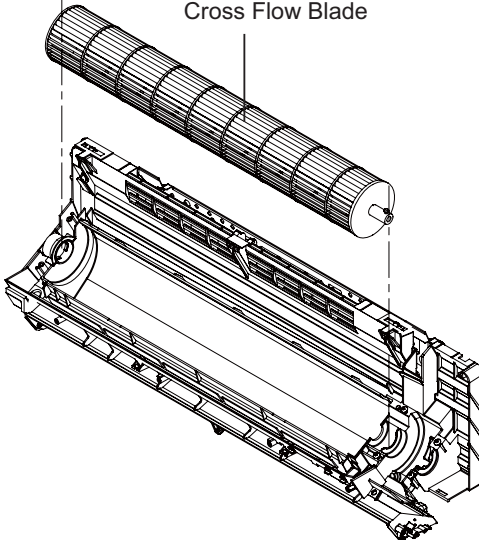


Warning

Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

Step	Procedure
1.Remove panel	
Open the front panel.Push the rotor shaft on both sides of the panel to make it separate from the groove .Remove the panel.	
2.Remove filter	
Loosen the clasp of the filter.Push the filter inward and then draw it upward to remove it.	
3.Remove horizontal louver and front case	
Remove axial sleeve of horizontal louver. Bend the louver outwards and then remove the louver. Loosen the screws of the electric box cover2 with screwdriver.Remove the electric box cover2. Open the screw cap on the front case. Remove the screws fixing the front case. Loosen the six clasps of the front case. Remove the front case.	

Step	Procedure
4.Remove electric box assy	
	<p>Remove the screws of the electric box assy.Remove the screws at the joint of the earthing wire and evaporator.Looseen the clasp at the joint of the electric box cover and the electric box.Remove the 2 screws of the display.Remove the electric box assy.</p>
	
5.Remove evaporator	
<p>1</p> <p>2</p>	<p>Remove the screws of the press plate of connecting pipe.Remove press plate of connecting pipe.</p> <p>Remove the 3 screws at the joint of the evaporator and rear case.Adjust slightly the pipe on the evaporator.Remove the evaporator.</p>
	

Step	Procedure	
6.Remove motor and axial flow blade		
1	<p>Remove screws of step motor and then remove the motor.</p> <p>Remove the screw of the motor press plate and then remove the press plate.</p> <p>Remove the screws at the joint of the cross flow blade and the motor. Take down the motor.</p>	
2	<p>Remove the cross flow blade.</p>	

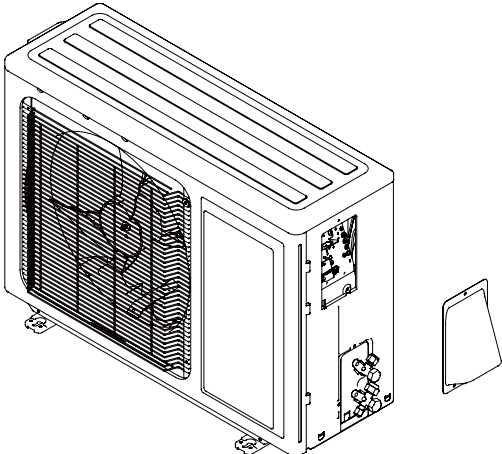
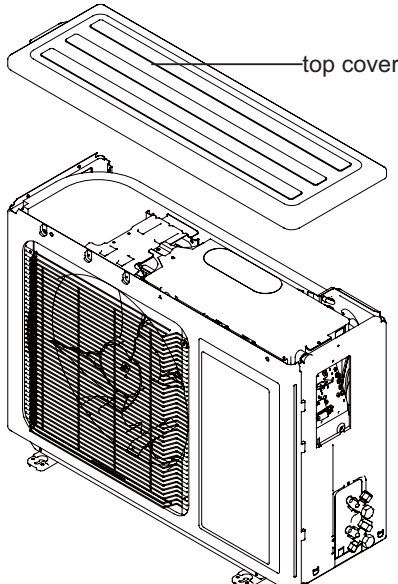
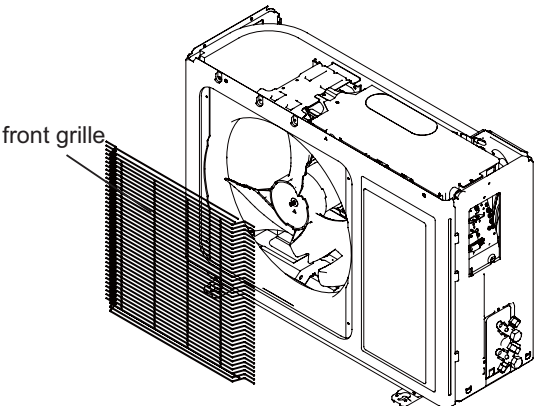
10.2 Removal Procedure of Outdoor Unit

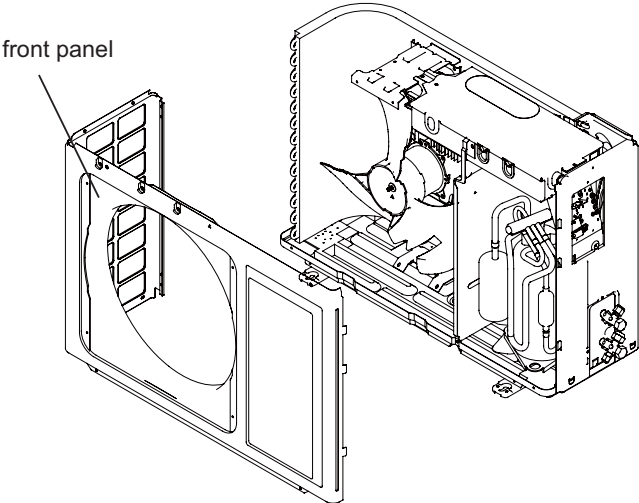
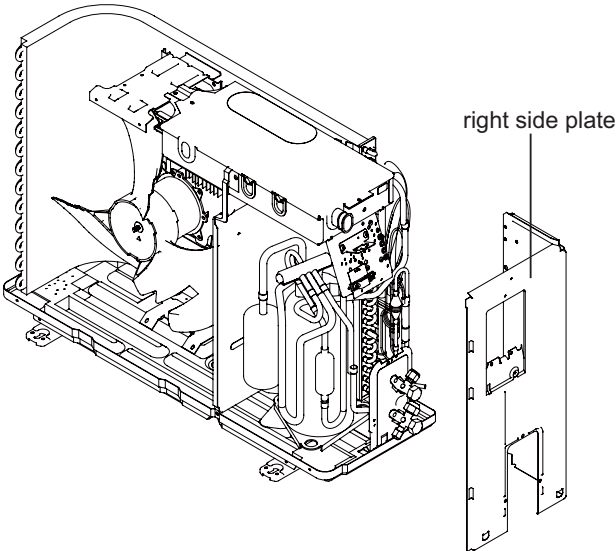
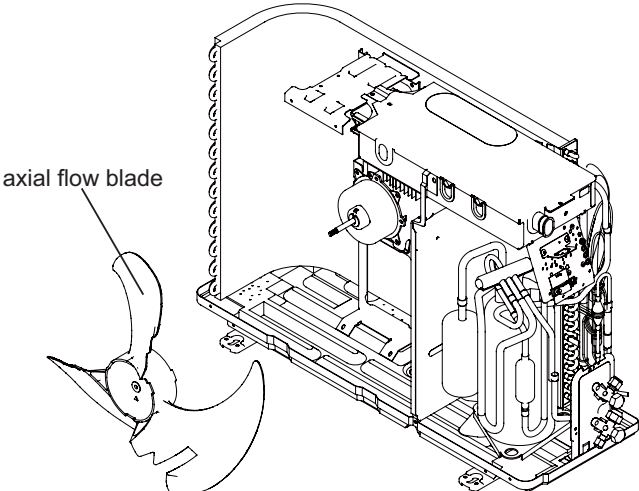


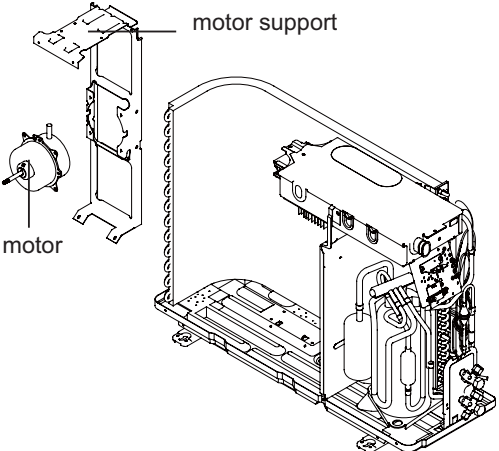
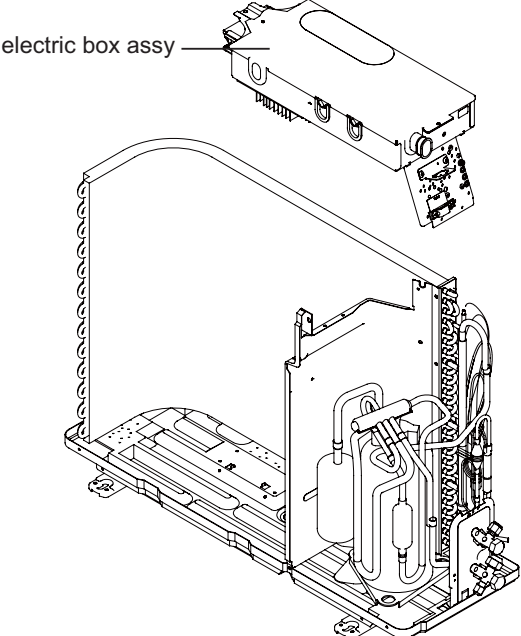
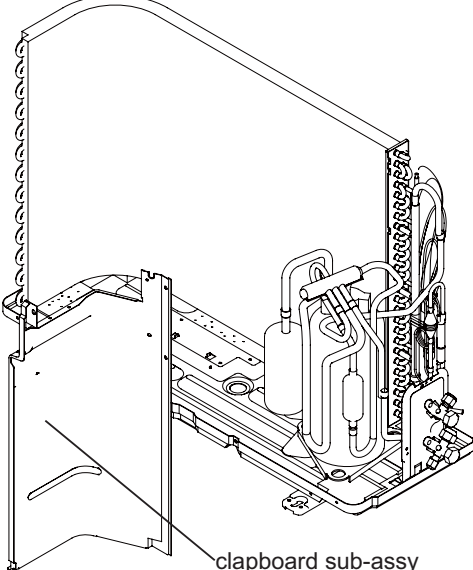
Warning

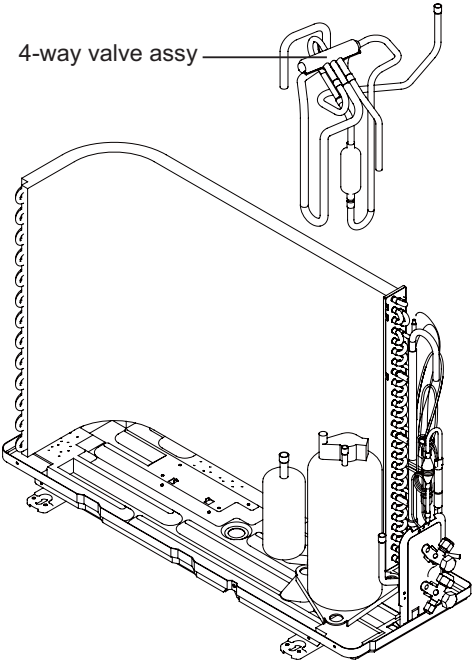
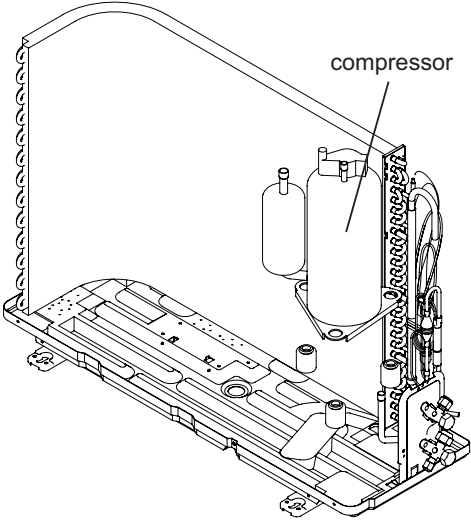
Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.

NOTE: Take heat pump for example.

Step	Procedure
1.Remove panel	
<p>Open the front panel. Push the rotor shaft on both sides of the panel to make it separate from the groove. Remove the panel.</p>	
2.Remove top cover	 <p>top cover</p>
<p>Remove connection screws connecting the top cover plate with the front panel and the right side plate, and then remove the top cover.</p>	
3.Remove front grille	 <p>front grille</p>
<p>Remove connection screws between the front grille and the front panel. Then remove the front grille.</p>	

Step	Procedure	
4.Remove front panel		
	<p>Remove connection screws connecting the front panel with the chassis and the motor support, and then remove the front panel.</p>	
5.Remove right side plate		
	<p>Remove connection screws connecting the right side plate with the valve support and the electric box. Then remove the right side plate.</p>	
6.Remove axial flow blade		
	<p>Remove the nut fixing the blade and then remove the axial flow blade.</p>	

Step	Procedure
<p>7.Remove motor and motor support</p> <p>Remove the 4 tapping screws fixing the motor. Pull out the lead-out wire and remove the motor. Remove the 2 tapping screws fixing the motor support. Lift motor support to re-move it.</p>	 <p>motor support</p> <p>motor</p>
<p>8.Remove electric box assy</p> <p>Remove the 2 screws fixing the cover of electric box. Lift to remove the cover. Loosen the wire and disconnect the terminal. Lift to re-move the electric box assy.</p>	 <p>electric box assy</p>
<p>9.Remove clapboard sub-assy</p> <p>Loosen the screws of the clapboard sub-assy. The clapboard sub-assy has a hook on the lower side. Lift and pull the clapboard sub-assy to remove.</p>	 <p>clapboard sub-assy</p>

Step	Procedure
10.Remove 4-way valve assy	<div><p>Uncrew the fastening nut of the 4-way Valve Assy coil and remove the coil. Wrap the 4-way Valve Assy with wet cotton and unsolder the 4 weld spots connecting the 4-way Valve Assy to take it out.(Note: Refrigerant should be discharged firstly.) Welding process should be as quickly as possible and keep wrapping cotton wet all the time. Be sure not to burn out the lead-out wire of compressor.</p></div> <div><p>The diagram illustrates the removal of the 4-way valve assembly. A callout labeled '4-way valve assy' points to a detailed view of the valve assembly at the top right. The main view shows the unit's chassis with the valve assembly being disconnected from the refrigerant lines. A large coil of tubing is visible on the left side of the chassis.</p></div>
11.Remove compressor	<div><p>Remove the 3 footing screws of the compressor and remove the compressor.</p></div> <div><p>The diagram illustrates the removal of the compressor. A callout labeled 'compressor' points to a detailed view of the compressor at the top right. The main view shows the unit's chassis with the compressor being disconnected from the base. A large coil of tubing is visible on the left side of the chassis.</p></div>



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